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ABSTRACT

The International Council for Open and Distance Education (ICDE) Librarians' Roundtable is the first of its kind for librarians of international distance and open education institutions to exchange their views on how to cope with the development of their institutions in the use of new technology, and in the provision of library services to distance learners. The 17 papers in this proceedings describe planning efforts, library services and recent developments, staff development needs, and use of information and communication technologies in libraries in distance and open education institutions in the world. Papers include: "The 'State-of-Library Services' in the Bangladesh Open University and an Action Plan for Future Development" (Muhammad Saadat Ali); "Library Services for Distance Learners at the University of the West Indies" (Elizabeth F. Watson); "New Library Services for Distance and Lifelong Learners at the University of Sunderland, United Kingdom" (Andrew McDonald); "Meeting the Information Needs of Distance Learners: the UPM Experience" (Kamariah Abdul Hamid); "National Resource Centre of the Mauritius College of the Air" (Pitt-Fong Ah-fat); "Moving Toward the Online Library" (Helen Livingston); "Library Services at Athabasca University; Change the Same" (Steve Schafer); "The Human Factors in Developing Electronic Library Services" (Andrew McDonald); "Changes and Challenges: ICT-Library-Library Staff" (Christer Knuthammar); "The Library of the Open Polytechnic of New Zealand" (Sandra Mann); "A Brief Presentation on the Use of Information and Communication Technologies in Peruvian Libraries" (Eduardo Villanueva Mansilla); "Current Position and Perspectives of the Fundamental Library of St. Petersburg State Technical University" (Vera Ananieva); "Distance Education and Library Resources at Vista University: from Unplanned Growth to a Visionary Package" (Juliano M. Kabamba); "Library Services for Distance Students at Sukhothai Thammathirat Open University" (Somsuang Prudtikul); "Greetings from the Rainbow Nation of South Africa" (Erlanda Venter); "The University of Zambia Library: Past, Present and the Future" (Hudwell Mwacalimba); and "Electronic Library Services for Distance Learners--Its Developments in the Open University of Hong Kong" (Wong Wai-man). (AEF)

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INTERNATIONAL COUNCIL FOR OPEN AND DISTANCE EDUCATION

ICDE **LIBRARIANS'** ROUNDTABLE

11-12 OCTOBER 1999

THE OPEN UNIVERSTIY OF HONG KONG

HONG KONG SAR, CHINA

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ICDE **LIBRARIANS'** ROUNDTABLE

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THE OPEN UNIVERSTIY OF HONG KONG

HONG KONG SAR, CHINA

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Foreword

Recent developments in information and communications technology and in the publishing industry have revolutionised the provision of library services and brought about far-reaching changes in both the services and the study environment of distance learners. Nearly every distance education institution is planning or implementing web-based learning to some extent. As an important centre of learning, the library is admittedly one of the departments in these institutes that has been overwhelmed by IT advances.

The ICDE Librarians' Roundtable is the first of its kind for librarians of distance and open education institutions in the world to exchange their views on how to cope with the development of their institutions in the use of new technology, and in the provision of library services to distance learners. The library of the Open University of Hong Kong has much pleasure in hosting the event and looks forward to similar functions in the future.

The papers in these proceedings describe the library services, their recent developments, and their use of information technology in over eighteen libraries in distance and open education institutions in the world. Also available at the web site (http://www.ouhk.edu.hk/10th/roundtable), these enlightening papers provide a wealth of experience and expertise for those who have a role to play in library services for distance learners.

I wish to thank members of the Planning Committee of the Roundtable, and those who have contributed to the Roundtable, this publication, and the web site, and hope that the Roundtable will be a good start for future experience sharing, resource sharing and co-operation among those librarians serving distance learners.

Ms Wong Wai-man
Librarian
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October 1999

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The 'State-of-Library Services' in the Bangladesh Open University and an action plan for future development

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Introduction

Education cannot be imparted without books nor research without journals. Both are essential, in the case of Open Learning/ Distance Education. It is with this perspective that the Bangladesh Open University (BOU) has developed. A library without services is like a cart without a wheel. Library services can be compared with the blood circulation in a human body. If the books are the *heart* of a library then the services can be called the arteries, and as such are vital. These services are:

a. Assistance given by staff to both users and clientele;

b. Lending of books to read either at home or in the library;

c. Reservation of books on request from the reader;

d. Inter-library loans;

e. Reference services;

f. Information and bibliographic services;

g. Photocopying services;

h. Translation services (where required);

i. Social education activities, if needed;

j. Mobile services to local centres in Open Learning/Distance Education system.

As well as the above, parking facilities for cars and cycles, canteen facilities, separate toilet facilities for both males and females, arrangement of boxes and protected places to keep umbrellas and bags etc. can all be treated as services rendered from the library.

In addition, the Bangladesh Open University Library also offers the following services:

a. Audio-video services;

b. Exclusive study area for users (i.e. Teachers, Scholars, Potential readers);

c. E-mail services;

d. Use of CD's and other disks;

e. Liberal reference services to readers;

f. Clippings, etc.;

g. Current awareness services;

h. Selective dissemination of information.

"The role of the BOU Library services is to improve the quality of learning among BOU students. The Library Services Division does this through its work with the Academic Schools and by supporting student study through the Regional Resource Centre and Tutorial Centre network. An important aspect of the library support service is to help writers and materials developers prepare up-to-date and relevant courses" (BOU-CS 29, p. 46).

The objectives of the Library and Documentation is to project its materials to its users. To achieve this goal, the Library is always busy with programs and functional activities. "The Library holds a CD entitled 'Distance Education Database' from the International Centre for Distance Learning [ICDL], OU UK. It contains data on courses, literature and institutions worldwide, including BOU. The Library would like to upgrade its system to a Windows-based network available for local area and remote reference..." (BOU-CS 1, p. 2.5).

So far as services are concerned the BOU Library is in a moderate position. It should be kept in mind that this University is still new and is passing through a transition period from Development Project to Revenue Budget of the government. The library staff are also acquainting themselves with the system of the OL/DE system. So we cannot over emphasise our library services. Keeping all this in mind, BOU Library services are outlined below.

Background

Bangladesh Open University (BOU) came into existence with a view to transforming the country's vast human resources into an educated and trained workforce by extending to them a wide range of academic programs, both formal and non-formal, in the field of Science and Technology, Education, Social Sciences, Agriculture, Business, General education, etc. via an Act of the Parliament in 1992.

The BOU Central Library has its own building and is situated in an independent three storey building (1568 sqm or 16,870 sft). The RRC libraries provide facilities for listening and viewing audio-video cassettes and reading and reference books for the tutors & students of BOU.

The Central Library at Gazipur main campus is equipped with a reasonable collection of books and CD-ROMs on a wide variety of subjects including those on Distance Education. It renders various services on resources available including various reference and reading materials for teachers, research students and members of staff.

Learning resources and services

The Library is still at its initial stage (established in 1992). It has now built up a collection of 18,000 volumes of books, and has started subscribing to 330 titles of journals. It is meant to serve a wide range of users. In addition it has:

i. Government publications, gazetteers, pamphlets, posters, etc.

ii. Reports, proceedings, seminar and workshop-papers, graphic designs, survey, reports, etc.;

iii. CD-ROMs;

iv. Audio-video materials;

v. Globes, maps, charts, etc.;

vi. Museum specimens, photographs, portraits, etc.

Computer storage of information is a continuous process, and the BOU library is undergoing this process now. In addition computers are used in searching for required information.

Maintaining the resources within the library

Open Access: Librarians, Information Scientists, and Documentalists have their own goals for the dissemination of information. So they design their programs according to need. "The contents, kinds, and services of libraries have all been improved through the years. But improvements extend even further. ...Within the library buildings themselves, librarians try to provide easy access to library materials. Many do so through the open-stack or open-shelf system. This system allows borrowers to go through library materials themselves." (World Book Encyclopedia, vol.12, p.213.)

The BOU library has introduced an open access system to facilitate easy access to books. Readers are at liberty to select the book of their choice. Books are issued to the users both for home reading and library reading as per library rules.

The BOU library has the following services

Rare & Reference: The reference section is quite well stocked. These books are not lent out but the readers can use them as ready reference tools within the four walls of the library. Some rare books and other informative materials have been kept as confined reading materials. These are allowed for reading on prior permission of the Librarian and these too are to be read inside the library.

Journals/Periodicals: This library has got a good number of journals, periodicals, magazines (local & foreign). These are procured according to the demand of BOU's schools and proper approval of the authority. Some journals have also been received as gifts. These are also treated as reference materials and cannot be issued. Pages are allowed to be photocopied however.

Bound Newspapers: The BOU library subscribes to 10 dailies and 2 locally published weeklies. Daily papers are kept here for a year. After this time, relevant clippings are kept, but the papers are disposed. It may be mentioned here that the Bangladesh National Library (Sher-e-Banglanagar, Dhaka), Bangladesh Central Public Library (Shahbagh, Dhaka), Dhaka University Library (Ramna, Dhaka) and Bangla Academy Library (Ramna, Dhaka) keep all the papers published in Bangladesh. So to keep papers in the BOU Library would be a duplication of effort and a wastage of money.

Binding: The BOU Library has a binding section. Periodicals, special reports, abstracts, torn and partially damaged books etc. are repaired and bound here. In special cases spiral and laminating binding can also be undertaken.

Photocopying Service: To facilitate photocopying services, a photocopier has been installed in the library. Required pages can be photocopied on request as per library rules. Special pages of book(s), papers, reports, contents, essays or any part of a journal or periodical, or from the clippings file can be photocopied on request, as per the rules. There is also provision for copying large charts, maps, drawings, layouts, etc. In special cases colour photocopies can be done through the Map-copier.

Computer Service: At present the library has a computerized catalogue, CDS/ISIS system is followed. Through this catalogue, a reader can easily find the required information.

Current Awareness Service: Through the computerized catalogue, a periodical bulletin is prepared on the current arrival of books, journals etc. giving all details of bibliographical information and is distributed to the Schools and Divisions of BOU for ready reference and guidance. Moreover, paper clippings are maintained. In addition, leaflets, pamphlets, brochures are preserved and arranged in document boxes alphabetically under their title.

Special corners

a) War of Liberation Corner: Museum (memorials of the great liberation war of Bangladesh), a good number of photographs, posters, portraits of the Father of the nation martyrs, freedom fighters, and other dedicated personalities. Specimens and audio-video cassettes on the Liberation War of Bangladesh have also been collected and displayed.

b) Corner of Personalities: There are some corners dedicated to distinguished personalities, political leaders, literary figures, poets, scientists etc. with collections of their writings, essays, books, reports, features published in the newspapers. These corners portray the illustrious sons of our soil and their achievements.

c) BOU's Publications: Every year a large number of course materials, instructional materials are published in modular book forms, on various subjects for six schools (Faculty) of the Bangladesh Open University. Three copies of each are preserved for reference, future guidance, course design and research purposes.

Clientele/Readers: Generally Teachers (faculty members) Academics, Researchers, Officers, Tutors, Editors and Writers on BOU subjects can use the library. Students may use the Central library in special cases. But in case of the use of Regional Resource Centre (RRC) library, students are always welcomed.

Electronic library services

Audio-Video: BOU Library has a large number of audio & video programmes produced by BOU's Media Division and all are telecast by BTV and broadcast by Radio Bangladesh for our students and tutors of various formal courses. A large number of non-formal programmes are also telecast and broadcast for the

masses. These programme tapes can be re-used by readers from the Audio-Video section. Other important related programmes on foreign organizations are also used for research and quality programme production.

Other audio-video materials such as Multimedia projectors, Film Strips, Slides, Overhead projectors, Epidiascopes etc. have been procured for training purposes and reference use.

There are other non-book materials such as maps, charts, globes, models, learning sets, visual aids etc. that can be used on request.

BOU Library: a future plan of action

1. Library Network Services:

   Soon BOU library will have Internet connections with other reputed libraries at home and abroad. Both LAN and WAN connections will be available then. So far LAN connection has been completed with the Regional Resource Centres (RRCs). Through this network e-mail services both at home and abroad have been introduced. Readers, members, tutors and students who have computer and e-mail connections, have ample opportunity to avail themselves of such services. Another network, BNSLINK, is also going to be established soon through the Bangladesh National Scientific and Technical Documentation Centre (BANSDOC) through which readers, users and information seekers, will be able to get information from the University Libraries in Bangladesh. Through WAN connections the library will collect or search information on the latest developments from other libraries at home and abroad and various sources available on the Web, especially articles published in journals, periodicals etc.

2. CD-ROM Services:

   The library has a CD-ROM drive and through this, a huge amount of information can be obtained from various CDs. In so far as the use of networks, CDs, A-V materials and other electronic items are concerned, the following steps will be undertaken:

   i. A manual of the operation of the network will be prepared for wider and proper services of the library network. This will help to operate library electronic equipment and to render services of the library.

   ii. To facilitate library network services, a memorandum of understanding will be prepared. This will pave the way for contractual understanding among the libraries using the network facilities.

   iii. Audio-Video conferencing services and telephone services will be introduced through the multimedia system.

3. Inter Library Exchange Services:

   BOU Library is now ready to exchange various publications, journals, current awareness services and other informative materials with other prominent libraries at home and abroad. Exchanges can be done either via post, e-mail or through the Internet system.

4. BOU's Web site:

   The Bangladesh Open University has plans to open a web page in the near future so that information on BOU and its services can be made available on the Internet.

5. Outreach Services:

   Book-mobile services is effective and a good example of a library outreach service. Using a large book-equipped truck, the library can go to outlying areas, miles away from the library building. A book-mobile library will be started in a small-single van car from Gazipur main campus and at times it will spread out throughout the country to supply books and library-items to its 80 local and 800-1,000 tutorial centres. After establishing connections with local centres and liaising with tutorial centres it is hoped book-mobiles can be introduced.

6. Computer Based Cataloguing:

   In addition to other activities and services, a computer-accessed cooperative catalog system via computer and telecommunication lines, can be developed among Regional Resource Centre libraries of Bangladesh Open University, where every RRC will be able to know and collect new information about the central library collection.

7. Computer Charging system:

   A computerised charging system will be introduced. Pending this, books are issued through membership card and issue register. A set of approved library rules is followed. A bar code system is also to be introduced in the near future that will help to establish which books are on loan, the borrower and the due date.

Conclusion

In conclusion, we would like to draw a picture of future library activities in Bangladesh Open University for its urban students. In general, we can say that academic libraries have taken a number of approaches in organizing information to meet the needs of their students, faculty (schools), and staff. Administratively, academic libraries are generally centralized, but physically they are often decentralized, because different schools are situated in different buildings. The size of some campuses, the location of academic programs in remote areas, and the need for convenience to users has led to the creation of specialized libraries in the concerned faculty/departments to serve specialized users in some large universities.

Bangladesh Open University is a special type of university. Though its academic buildings are situated in the main campus, its 1,80,000 students are scattered throughout the country. Many do not have the opportunity to come to the main campus. Their liaison-point is either at tutorial centres, or local centres, and very often they come to regional centres. So they have little scope to use central library resources situated at the main campus.

In terms of Bangladesh, especially in the OL/DE system, library facilities and services should be provided to these scattered students, and outreach activities should be ensured. BOU would like to broadcastradio

television programs regularly. It also aims to provide book-mobile services, issue video and audio cassettes, and establish a teleconferencing system.

The Bangladesh Open University has every good intention to implement the above programs. But it is fact there are numerous financial constraints. If-funds could be made available, BOU would strive to fulfil every program and establish itself as a unique university in the world especially in the field of OL/DE systems.

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Library services for distance learners at the University of the West Indies

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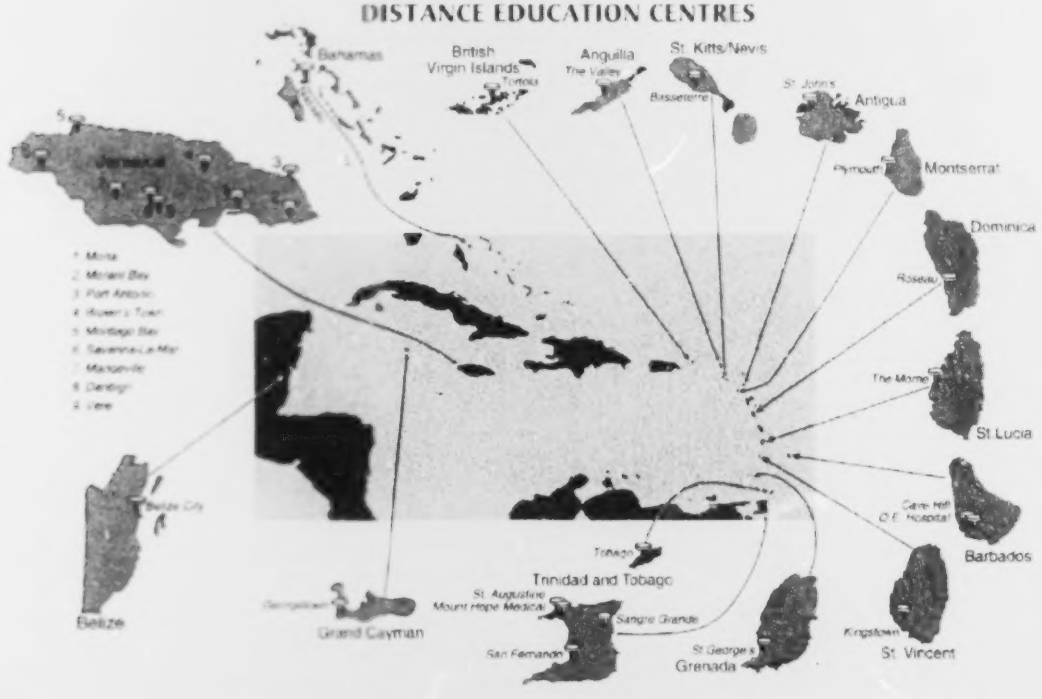
Background

The University of the West Indies (UWI) enrolled its first students in 1948. Until 1962, when the UWI received its charter, it was one of the affiliated colleges of the (British) University of London. (It was known as the University College of the West Indies). From a single campus at Mona, Jamaica, the UWI is currently a three-campus university, with each campus located on a different island. (It is one of only two regional universities in the world. The other is The University of the South Pacific.) The other UWI campuses are at St. Augustine in Trinidad and Tobago (1960) and at Cave Hill in Barbados (1963) (see map).

From a single Medical Faculty in 1948, with 33 students, the UWI now offers a variety of degrees (undergraduate and post-graduate), diploma and certificate courses to approximately 20,000 students (1999-2000) in the faculties of Agriculture, Arts and Humanities, Education, Engineering, Law, Social Sciences and Pure and Applied Sciences.

In 1982, the UWI began to offer formal training opportunities via distance modalities and from an initial five distance teaching sites, there are currently 26 UWI Distance Education Centres throughout the English-speaking Caribbean (see map).



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Outreach programmes

From its inception, because of its regional dimensions, limited facilities and resources and the distance between the non-campus countries and its campuses, the UWI established Extra-Mural Centres (now Schools of Continuing Studies (SCSs)) to support the UWI's outreach initiatives to the wider Caribbean Community. Located around the Caribbean, these centres are central to the UWI's distance teaching programmes.

Distance education at the UWI

In 1977, under a Challenge Programme (the precussor to distance education at the UWI today), students in the Non-Campus Countries (NCCs) were able to pursue the 1st year B.Sc. Social Sciences Programme by attending classes at the Extra-Mural Centres. Under this programme, support services, including library services, were minimal.

In 1982, after some years of research into using satellite and communication technologies for delivering educational programmes to remote areas, the University of the West Indies Distance Teaching Experiment (UWIDITE) was started with sites on each of the 3 campuses and one each in Dominica and St. Lucia. By 1984, more than 400 students were participating in courses transmitted through UWIDITE. Between 1982 and 1992, in addition to the 1st year B.Sc. programme, a variety of diploma and certificate courses were delivered at a distance across the region. The current enrollment figure for distance students of the UWI is estimated at 3,500.

In 1992, the UWI's commitment to distance teaching was affirmed when it declared itself a dual/mixed mode institution. UWI students in several disciplines enjoy a choice of pursuing their studies through either face-to-face, or distance learning or a combination of both strategies. Access to distance education was widened to include persons who were resident in a campus territory. Distance courses are delivered through a combination of print, video and audio self-instructional materials with the possibility of periodic face-to-face and/or audio conferencing tutorials.

During the early part of the 1990s, the UWI embarked on a major restructuring exercise including its progamming in distance education. In 1996, the Distance Education Centre (DEC) was established under the Board for Non-Campus Countries and Distance Education, a new administrative entity. All distance education programming at the UWI has been amalgamated under a single umbrella, the DEC. The overarching aim of the DEC is to provide world class distance education for Caribbean people, and in so doing help the UWI to achieve its mandate of widening access to tertiary level education and training, thereby unlocking the potential of the region for growth and development (Bellot et. al., p.11).

By 1997, distance education programme offerings were widened to allow students in the region to pursue full degree programmes in Management Studies and Agribusiness Management as well as Certificate Programmes in Adult Education.

The distance education sites of the UWI, are currently being upgraded to facilitate multimedia and interactive distance education programming. This upgrading represents a considerable improvement to the capability and capacity of the existing system. Improved voice quality, the ability to send and receive single-frame,

real time video, access to the Internet, application sharing among computers throughout the network, the ability to have concurrent teleconferences, and a ten-workstation computer lab at each site (Caribbean Waves, p.3).

Library services for distance education at the UWI

Early experiences

While equity of access to library services is desirous, the UWI recognizes that its distance students are not as well served as its campus-based students. When the SCSs were established, libraries were integral features of these units. Over the years however, many of the SCSs libraries were not maintained, while some have noticeably deteriorated. Lack of funding for collection building and other purposes, space constraints, varying interests in library issues/services of the staff of these centres and the absence of professional services are among the major reasons for the underdeveloped state of most of these libraries. These factors led to small collections, outdated titles, pilferage, the absence of critical texts and other important items for university level programmes, inappropriate furniture and fittings as well as insufficient copies to support the class sizes at each centre. Support from the local public libraries is limited due to the primary focus of these libraries. Their small budgets, the increasing costs of university level titles and the limited number of professional staff in these islands, many of whom are not well versed in the information needs of tertiary level learners. Photocopying, IT hardware and software are expensive. Further, electrical and telecommunications services are poor in many of these countries. These realities mean that although the Internet has eradicated the information disenfranchisement of distance learners in other countries, Caribbean distance learners are further challenged to access information and library services readily, quickly and cheaply because of the additional barriers which have been cited.

Early UWI distance learners in the non-campus countries depended heavily on the specially prepared packages of course materials provided and wherever available, local information resources and services. In 1994, Steele conducted a survey into the perception of some students from the Eastern Caribbean with regard to library services for distance learning and their expectations. Findings indicated that students wanted access to essential texts, copies of lectures (notes or audio) and the provision of a quiet place to study and write.

Regrettably, most distance students of the UWI do not have access to the campus libraries for several reasons. Many Caribbean distance students do not live in a campus country; these collections are heavily used by the campus-based students; and, the distance programme timetable is concurrent with that of the campuses. All of these factors negatively impact on the capacity of the campus libraries, at the present time, to support distance learning.

Present practices

Committed to reduce and redress the disadvantages that distance students experience vis-a-vis on-campus students in respect to library and information services each of the campuses, constraints notwithstanding, has sought to do what it could in this regard.

As a general rule at all campuses, distance students who are able to go to their campus of registration can have access the library of that campus. Upon presentation of their identification these students enjoy library privileges similar to those extended to students registered for face-to-face programmes. These include library orientation, all Internet based services, reference and borrowing privileges.

Mona Campus: A distance library services coordinator has been identified and given responsibility to facilitate this service. A brochure describing the services available to students has been produced and it is distributed with the information pack sent to students by the DEC on this campus. The coordinator also participates in the teleconference orientation programme for distance education students and discusses library services. The Coordinator and, on occasion, the University Librarian have visited the UWIDEC sites in Jamaica to investigate the ability and requirements of the sites to provide library services to the distance education programme. A core collection of recommended texts has been acquired and dispatched to each distance education site in Jamaica and those northern Caribbean countries for which the Mona campus has responsibility.

Students who are unable to visit the campus library are invited to submit their information needs/requests to the Resident Tutor or Site Coordinator for transmission by telephone, fax or email to a Distance Library Services Coordinator at the Mona Campus Main Library. Interlibrary loans and other responses are channeled through to the Site Coordinator and courier services are employed for document delivery to these students. Fines on late books and the cost of photocopies are the responsibility of the student.

St. Augustine Campus: A member of staff at both the Main Library and Medical Services Library (MSL) of this split facility campus has been assigned responsibility to coordinate distance library services. In addition to the main campus there are two other sites in Trinidad and one in Tobago, the sister island of this twin island state. Distance education students who use this campus' main library are limited to six items from the general collection and two items from the reserve collection for use in the library. In addition, there is also a special distance education collection. Items in this collection are loaned for three days.

The MSL, the other library of the St. Augustine campus, is committed to provide the necessary library and information service for the distance education courses being planned by this campus. Consequently, the MSL will provide information services for the DE postgraduate diploma in Family Medicine that is currently being planned. All stakeholders in this programme, including the library, participated in a planning meeting at which a specially developed diskette on proposed library services for medical distance learning was distributed and demonstrated. The diskette included a Web page that facilitated access to the library's personnel and resources as well as citations of appropriate WEB resources for the course to be pursued. The distance programmes in medicine to be delivered from this campus will be open to any physician in the Eastern Caribbean. This approach marks a new development in the delivery of library services to the distance students of the UWI.

Cave Hill: Regrettably, this campus which is ideally located to serve the Eastern Caribbean, provides very limited services to distance learners in these islands. Advice on library development, inter library loans (limited to academic staff) and the verification of bibliographic details are the main services provided by this institution.

All of the campuses will be affected by the proposals of the University Librarian. The main features of this proposal are given in the section in a preceeding section on the future.

Staff involvement in distance librarianship

Recognizing that library services to distance learners will be a major challenge of the UWI in the short term, several librarians have become involved in various aspects of distance library services. The research and publications of Watson are numerous and they have served as important professional guidelines for others embarking on distance library services in the Caribbean and beyond. Librarians from each of the campuses have also attended several courses on various aspects of distance education, including a course writing workshop with a view to garnering the appropriate skills to write distance education materials. These skills will be translated into developing orientation modules and information guides for distance students of the UWI. Additionally, all professional training experiences will redound to the benefit of distance library services from the UWI, particularly those which relate to IT-based activities.

Recently two staff members, one from both the St. Augustine and Mona campus, have been in the United Kingdom on a work/study/research programme investigating various aspects of distance library services.

Future plans

GENERAL: Presently, investigations are being carried out to identify Internet databases which could be licensed for use on a UWI Instructional Web Site for new distance education graduate programmes to be developed with funding from the European Development Fund, LOME IV agreement. The current upgrade of the technical capacity and capability of the UWIDITE system will be deployed to improve the quality of library and information services available to distance learners in the Caribbean.

Recently, a policy document was prepared by the University Librarian to guide the development of UWI supported libraries in the NCCs. The document clearly articulates the need to provide quality library facilities and services at the SCSs in the NCCs. Ultimately, it is envisioned that library facilities in the SCSs will be of a standard that is comparable to that which is available to students pursuing the same courses on the campuses. In relation to the NCCs this document has the following specific recommendations:

SHORT TERM (1-3 YRS) recommendations cover staffing and equipping the SCSs in the NCCs in support of distance programmes. The document also proposes that a librarian be appointed at Cave Hill to coordinate library services in the NCCs in the Eastern Caribbean. Collection development in all NCC/SCSs is recommended. Also envisaged is that each library should have a computer dedicated to database development and another unit for Internet access.

MEDIUM TERM (4-7 YRS) recommendations state that the physical plant for the library in these centres should be upgraded as required to conform with contemporary standards. A Senior Library Assistant (Library Technician) should be appointed to each centre and staff training is deemed to be a crucial component of this phase.

LONG TERM (7+ YEARS) recommendations speak mainly to the development of the technological capabilities

of each centre to permit access to digital resources on the campuses and elsewhere. The proposal recognizes the importance of cooperation with other libraries in the NCCs so that wasteful duplication of effort can be avoided.

Thus, although library services to the distance learners of the UWI were not integral to such programmes from their inception. It is clear that the strategies and developments being recommended by the University Librarian will ensure that future distance learners of the UWI will be able to access a level of library and information services appropriate to their programme of learning.

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New library services for distance and lifelong learners at the University of Sunderland, United Kingdom

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As we enter the *New Learning Age*, librarians face the daunting challenge of creating a high quality learning experience for the growing number of distance and lifelong learners who are physically remote from our campuses. In response to the UK Government's policy of widening participation in education, numbers of universities are expanding their off-campus provision. The University of Sunderland, in particular, has embarked on a number of unique initiatives to facilitate both distance and community-wide lifelong learning, and we have developed distinctive library and information services to support these new learners.

Services for distance learners

Services for learners who are registered on our distance programmes are increasingly well-used, particularly by our overseas learners who are undertaking project work as part of their studies. Distance learners can register with us directly, via our dedicated Web pages, or through their local learning centre. They can communicate with us by telephone, fax, email or the Web, and we are exploiting a mixture of traditional and electronic means to serve their library and information needs.

A number of our extensive range of electronic databases and retrieval services have been made available on the Web, and we provide enquiry and literature searching services. Documents can be delivered by post or fax, and postal loans are offered in the United Kingdom. Books can be reserved and renewed either directly or through the self-service facilities of our online catalogue. Assistance is given is gaining access to learners' local libraries. As part of our commitment to quality, distance learners are surveyed annually about their awareness and experience of these services, and they are asked for their recommendations for development.

We have plans to develop these services even further. Publicity and marketing will be improved, working in conjunction with local centres, and interfaces will be customised to particular national requirements. The range of electronic databases increased, user authentication improved, and information skills training offered over the Web. We will define the standards of service our learners can normally expect, and we will monitor usage and customer feedback with a view to making improvements.

All this will be supported with an increased budget and more staff effort and training. ICT offers great potential for developing services for distance learners, but problems of connectivity, content, competencies, cost and copyright remain. The value of traditional approaches should not be overlooked, and we must ensure that services are sensitive to the pedagogic experience and personal pressures of our distance learners.

Services for lifelong learners

The library at the University of Sunderland has developed several partnerships with other libraries and organizations to support community-wide lifelong learning in the City.

The Libraries Access Sunderland Scheme (affectionately known as LASh) is a unique example of cross-sectoral library collaboration designed to open up the world of learning to people of all ages our Learning City. Anyone who lives, works or studies in Sunderland may use the twenty-one public libraries, the four learning centres in the City's Further Education College and the four libraries in the University.

The three partner organisations have collaborated so that lifelong learners can study at any of the 3,000 reader places in the public and academic libraries spread around the City, and they can make free use the collections, ICT and services provided there. They can use the nearest or most convenient library, and this may be particularly attractive to part-time and disadvantaged students. The public are encouraged to use academic libraries and may get their first taste of life on campus. Staff and students of the City College and University have reciprocal access rights, and are reminded of the value of the public library. Sharing resources means that everyone can benefit from the investment in libraries in the City. Libraries are important places to market and publicise learning, and we believe that through our libraries, learners can be encouraged to step the *ladder of learning* and to develop their interests without unnecessary institutional barriers.

Working together, the libraries in the City have achieved much more. As well as a joint staff training scheme, we have shared our online catalogues and we have provided several thousand full-text electronic journals through a unique City-wide licence. The libraries have supported the University for industry and other learning initiatives, and we have undertaken research projects. Plans include a City-wide document delivery service; a common smart library card; and involving school libraries, electronic village halls and other learning centres in surrounding areas.

The University Library has also developed partnerships with health trusts, the legal profession, schools, the BBC and has "joined-up" with several other organizations in the City and the North East Region of England.

In the University of Sunderland, we have recognized the importance of supporting distance and lifelong learners and we have developed distinctive library and information services for these new learners, exploiting ICT wherever possible. Indeed, libraries can take the lead and demonstrate the way in which off-campus learning can be facilitated, supported and sustained. The network of libraries has a huge role to play in making the *New Learning Age* a reality.

Meeting the information needs of distance learners: the UPM experience

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Introduction

Universiti Putra Malaysia traces its origins to the School of Agriculture which began in 1931 as the training centre for officers of the Department of Agriculture. The School was declared the College of Agriculture in 1942, and later became the University of Agriculture (Universiti Pertanian Malaysia (UPM)) in 1971 with the merger of the College and the Faculty of Agriculture of the University of Malaya. UPM started its academic programmes in July 1973 with three founding faculties: the Faculty of Agriculture, Faculty of Forestry, and Faculty of Veterinary Medicine and Animal Science with a total number of 1,559 students. On 3 April 1997, the University was renamed as Universiti Putra Malaysia.

UPM is currently the largest science and technology university in the country with a student enrolment of 35,000, including 8,700 distance education students. With its 13 faculties, 2 graduate schools, and 2 institutes, UPM offers degree and diploma programmes, and several graduate study programmes at both the master and doctoral levels. Programmes offered include agriculture, forestry, veterinary medicine, animal science, basic sciences, resource economics and agribusiness, engineering, environmental science, education, extension and continuing education, business management, computer science, human development, food science, biotechnology, accounting and modern languages.

As an institution of higher learning, the University strives towards achieving the highest level of credibility for its academic programmes as reflected in its mission statement which states :

> *To be a leading centre of learning and research contributing not only towards human advancement and discovery of knowledge but also to the creation of wealth and nation building.*

Over the years the University has established strong links with other academic and research institutions, as well as with industry. This ongoing collaboration allows the University to fine-tune its programmes and courses to meet the needs of both the national and international marketplace. Staff and students have benefited from this interaction which has helped to prepare them for the challenges of an intellectually demanding job environment.

Distance education

UPM offers distance education through its Institute for Distance Education and Learning (IDEAL) which was officially launched on 26 June 1995 by the Honourable Minister of Education. It aims to provide the

working population of Malaysia with quality degree and non-degree programmes through distance education and open learning, as seen in its mission that states :

> *IDEAL is committed to democratise education by ensuring equity of access to and success in higher education and lifelong learning.*

To achieve the mission, IDEAL offers courses that cater for advance education and career enrichment for the public who cannot attend formal schooling in the University owing to constraint of work schedules. IDEAL offers a flexible mode of delivery to enable those with personal and work constraints to pursue further education. In this way, the Institute is sharing the University expertise to offer lifelong education to the Malaysian society to match the capability of its people to the growing demand of this fast industrializing nation.

Programmes offered

UPM offers a total of 13 programmes through distance education, namely :

1. Master of Science in Corporate Communication.
2. Master of Science in Human Resource Development.
3. Bachelor of Arts (English Language).
4. Bachelor of Arts (Malay Language and Linguistics).
5. Bachelor of Communication.
6. Bachelor of Computer Science.
7. Bachelor of Education (Guidance and Counselling).
8. Bachelor of Education (Teaching of B. Malaysia as the first language).
9. Bachelor of Education (Teaching of English as the second language).
10. Bachelor of Science (Hons.) majoring in Mathematics.
11. Bachelor of Science (Hons.) majoring in Statistics.
12. Bachelor of Science with Education (Hons.) majoring in Mathematics.
13. Bachelor of Science with Education (Hons.) majoring in Statistics.

Language of instruction

Most of the undergraduate programmes use Bahasa Malaysia as the language of instruction, while English language is also used for the Bachelor of Education (TESL) and several other science and technology based programmes. The graduate programmes use the English language as the main language of instruction.

Registration and orientation

All candidates offered places for distance education are required to register as UPM students. Registration is twice a year, May and November semesters respectively. The registered students are required to attend an orientation programme, where a briefing is given relating to course requirements, assignments, examinations, programme structure, academic guidance and distance learning. The students are also introduced to their respective course lecturers.

Teaching and learning

The distance education programme emphasises individual study which allows flexibility for the working community. To help students pursue individual study, several support services are provided. Students are given learning modules that outline the course contents, assignments and course requirements together with several references that need to be read. They are also given the opportunity to attend face-to-face sessions with their lecturers at least twice a semester.

Learning centres

To enhance facilities for distance education students, several learning centres are provided for undergraduate programmes throughout the country. Activities at these learning centres include discussion and tutorial sessions, reference facilities and examinations. Tutors are appointed to guide the students and a supervisor is appointed to be responsible for the administration of the centre. Besides the learning centre in UPM, other centres are situated in 20 strategic towns such as Alor Setar, Banting, Bintulu, Ipoh, Johor Bahru, Kota Bharu, Kota Kinabalu, Kuala Lumpur, Kuala Terengganu, Kuantan, Kuching, Kulim, Lumut, Melaka, Muar, Pulau Pinang, Seremban, Shah Alam, Taiping and Tawau. New learning centres are developed as and when deemed necessary.

Library and information services

The UPM library is centrally situated in the academic complex and has a floor area of approximately 17,652 square meters and a seating capacity of about 2,000. It has developed its collection in agriculture and related fields since its early beginnings to meet the information needs of its clientele. As the University expanded and introduced new programmes and established new faculties, collection development changed its focus accordingly, not only in terms of subject areas but also the levels, to cater for the increasing postgraduate programmes. The library has a collection of approximately 450,000 volumes, current journal subscriptions of 2,133 titles, 60,000 units of audiovisual materials, and a total of CD-ROM databases.

The library's mission ***is to provide excellent resources, facilities and services in fulfilling the information needs of users in their learning, teaching, research and consultancy activities in the University***. To realize this mission, the library provides the following major services :

a. Liaison Librarians – a team of faculty liaison librarians takes care of the information needs of students and academic staff of the different faculties. They provide advice on effective ways of seeking infor-

mation. They also provide on request, customized courses to final year and postgraduate students. One librarian is specially assigned to provide services to distance learners.

b. Loan service – an undergraduate student is allowed to borrow 4 books for 2 weeks (3 weeks for distance learners), while a graduate student may borrow 15 books for 30 days. Journals and audio-visual materials are to be used in the library only. Loans may be made by post, whereby the students pay the postal charges.

c. Reference service – the library maintains a professionally staffed Reader Advisory Service throughout its opening hours. Users needing assistance concerning the facilities and services or advice on information retrieval systems may seek guidance from the Reader Advisory Desk. Distance learners may make reference enquiries through the telephone, telefax or e-mail.

d. Information search service – besides being offered to students and academic staff, this service is also offered to individuals from other organizations at a nominal charge. Distance learners request for this service through ordinary mail or e-mail.

e. Interlibrary loan/Document delivery service – open to academic staff and graduate students on campus. Distance learners may request photocopies of journal articles or book chapters through e-mail, and pay for the photocopy and delivery costs.

f. Information literacy program – new students are introduced to the library and its services and facilities through a special library orientation program at the beginning of each semester. Ongoing user education programmes on information searching techniques are offered to all categories of users. The library has a training room equipped with 30 microcomputers linked to the campus network and the Internet for this purpose. Distance learners go through this program as part of their orientation programme and also during their face-to-face sessions on campus.

g. Access to local online databases on a subscription basis, such as :

- NSTP Online — a service offered by the *New Straits Times Press* (Malaysia), which provides information from the daily papers published by the press. It also contains special databases on companies, individual personalities, foreign countries as well as the different states, and articles from the journal Malaysian Business, an NSTP publication.

- PALMOILIS — a database developed by the Palm Oil Research Institute of Malaysia (PORIM) that contains information on oil palm available at the Institute, including recipes using palm oil, PORIM's profile, and other host databases.

- SIRIMLINK — a database developed by the Standards and Industrial Research Institute of Malaysia (SIRIM) covering technology and technological developments such as standards, quality procedures, patents, and other data related to commerce and technical issues.

h. Access to foreign online databases through the Internet by subscribing to EBSCOhost on the World Wide Web, Emerald Intelligence and Full Text Electronic Library, and Digital Dissertations. Being IPaddress-driven, these databases are accessible through any PC on the campus-wide network.

Computer and IT application

The first form of computerization that the library experienced was when it participated in a cooperative cataloguing project together with the other university libraries and the national library, known as MALMARC (Malaysian Machine Readable Cataloguing) in 1979. A by-product of the project was the COM (Computer Output on Microfilm) catalogue, which was produced in the microfiche format. The library then had two forms of catalogue — the traditional card catalogue which contained records of books processed prior to 1979, and the microfiche catalogue of books processed since 1979.

The second half of the 1980's marked a new era in the library when it started using computers and other IT applications, and had its own computer system installed. An initial development in the use of computers was in 1985 when the library bought the first microcomputer which was subsequently used for online access to foreign databases, namely DIALOG databases in Palo Alto, California through MAYPAC (Malaysian Packet Switched Network). This service soon became popular with both academic staff and researchers. Another development was when the library launched an information search service using CD-ROM. The library had been chosen as one of the test sites for evaluating CABI's databases on CD-ROM, to test the effectiveness of CD-ROM as a medium in information dissemination. It proved to be effective and successful, and the library soon started subscribing to several other CD-ROM databases. A total of 10 microcomputers, each with a multi-drive CD-ROM unit, are currently provided and located in the public area for easy access to these databases. A CD-ROM networking system was also installed in late 1994 but this was confined only to those CD-ROMs used by the staff in technical processing units as these CD-ROMs may be used on a Local Area Network (LAN) at no additional charge of a LAN fee. The cost of multiuser licences for the other CD-ROMS are a little too much for the library.

The Hewlett-Packard minicomputer was installed in July 1987, and the period July – December 1987 saw the development of an in-house database on Management and Untilisation of Wastes (MUWIC) using MINISIS, a database management software that was received gratis from IDRC. The library then became the Regional Information Centre for Management and Utilisation of Wastes, a joint project with the Faculty of Engineering, funded by IDRC. Other in-house databases were soon developed using MINISIS, namely AGRIMAL (Malaysian agricultural information since 1900), MAKMAL (information on subjects other than agriculture pertaining to Malaysia), FISHE (fish health and diseases and other aquatic life in Asia), FAMILY (database on family and family development), HOUSING (database on housing development and research to support the Housing Research Centre in the Faculty of Engineering), and SMI (database on small and medium-size industries).

The library uses Virginia Tech Library System (VTLS), which was installed in January 1988, by which time the library catalogue in the MALMARC system totalled about 60,000 records. These records were immediately transferred into VTLS. The remaining 35,000 records in the card catalogue were subsequently input and 16 months later, the VTLS online catalogue was ready to be used. The circulation of books also went

online at the same time, in July 1989. This marked the end of the card catalogue which was immediately taken away from the public area. VTLS implementation went on smoothly and the library thus has a completely integrated system for its housekeeping functions of acquisitions, cataloguing, serials control and circulation. About 40 terminals and 90 microcomputers are currently linked to MINISIS and VTLS.

The University installed the campus wide network with the ATM backbone in 1995, and has enabled the library catalogue to be on the Internet ever since. The catalogue is directly accessible through the library's homepage, which also provides links to other sources of information on the Internet, both local and international. The academic staff can also make requests for purchase of books and interlibrary loans through the library homepage. The library has recently installed a network printer to which requests for printing can be made from any PC on the network in the library. Users are now able to print from the Internet using this network printer.

Future developments

The current subscription to online full-text databases as mentioned earlier is a step towards the development of a digital library. The library hopes to expand its coverage of bibliographic and textual databases so that faculty and students will have access to the key literatures they need in a larger variety of disciplines. The major databases in science, information technology, engineering, medicine, and social sciences are among those under consideration. The library will also consider other types of electronic sources of information such as multimedia CD-ROMs, videos in digital format, geographic information systems, etc.

Besides continuing to develop more in-house databases in the various disciplines offered at UPM, the library is planning to digitize the University's publications into a searchable database. The plan to work towards the digitization of materials was mooted a couple of years ago, but was handicapped by a shortage of funds and staff. A decision has been made to digitize at the outset only UPM publications so as to avoid any problems that may arise with copyright issues. A pilot project is currently underway to digitize the theses collection.

The information technology infrastructure in the library will be upgraded so as to enhance the provision of electronic services through the network. The library will also set up multimedia laboratories equipped with new technology computers for students to access various forms of electronic resources locally or over the network. Video streaming facilities will also be installed to cater for digital video viewing on demand.

As the digital library becomes a reality at UPM, staff training will be increasingly important. Ongoing training on current library operations and new technologies will be provided to staff at all levels. When the digital library is implemented, users will have the opportunity to learn about and utilise the library's resources and services with minimal physical contact with the library facilities. Services will include instructional tools, access to online full-text journals, interlibrary loans, document delivery, current awareness services, as well as electronic service request forms. These will definitely enhance the library services to UPM distant learners.

National resource centre of the Mauritius College of the air

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Introduction

The Mauritius College of the Air is a para-statal organisation under the aegis of the Ministry of Education and Scientific Research. It has two main objectives:

- To produce educational audio-visual productions
- To run distance education courses

Though it has existed since 1971, it was re-structured and re-organized in 1985 and its existence under the present set-up is thus less than 15 years. A division of Distance Education was created in 1994 to meet the educational needs of persons who have been left behind under the traditional system of education. Distance education is relatively new in Mauritius, and can be dated only from the early 1990s. The Mauritius College of the Air can be considered as a pioneer in the field.

Staff

The National Resource Centre is the resource centre of the Mauritius College of the Air. It has a staff of 10, and is headed by a qualified librarian. The latter is assisted by 6 para-professionals.

Services

As the resource centre of an organization which delivers two distinct types of services, i.e. production of educational media and provision of distance education courses, the National Resource Centre acts both as an audio-visual library and academic library. The media library provides lending services to schools, ministries and para-statal organisations. It offers a duplicating service whereby productions of the Mauritius College of the Air can be copied for clients by request. It also sells the more popular productions to schools and the general public.

As an academic library, it serves the needs of the lecturers, tutors and students of the organisation. Courses run vary from very short courses of 4-6 weeks on personal/professional skills to award courses of certificate and diploma of 2-3 years. Subjects covered are IT, Librarianship, A-level courses on various subjects, Transport, Teacher Training, Writing in French, Basic English.

A separate library is operated for distance education students through a Study Centre. The latter organises activities such as face-to-face sessions, film shows, talks, mock examinations and reference and study

facilities. Due to the limited books available in the Study Centre, books are limited for reference purposes only.

Plans for future development

The National Resource Centre will be moving to a new functional building within one year. The new library is near completion, and will occupy 1,000 sq. metres. It will have space not only for its stock and staff but it will also house a lecture theatre, seminar rooms and viewing rooms.

It will be strengthen its staff for the Study Centre and is recruiting special library staff for its distance education activities.

Opening hours will be extended, and the library will be open up to 6.00 p.m. six days a week.

It will build up a special collection on distance education materials, and will acquire samples of course materials from other overseas DE institutions. This is expected to help staff to develop new courses and assist them in their research.

Conclusion

Distance education is relatively new in Mauritius and library services for distance education staff and students are only taking shape now. Training library staff in improving library services is most welcome.

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Moving toward the online library

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Introduction

Deakin University is a metropolitan and regionally based university with six campuses in the Australian State of Victoria. Its 1999 student population totalled 28,000 people, with 16,000 studying on-campus and 12,000 studying off-campus. In addition, a further 40,000 students study through the University's commercial arm, Deakin Australia, which provides training and higher education opportunities to staff of corporations and government departments and to members of professional associations. Since its inception, Deakin University has been renowned for its excellent distance education programs, providing higher education opportunities to people who, for reasons of remoteness or inability to attend traditional on-campus universities, chose to study remotely. The student population is drawn principally from Victoria, but also from other parts of Australia and overseas. In recent years, Deakin University, and many others in Australia has increased its enrolment of overseas-resident students.

Deakin University Library provides access to as many services as possible online. Students are assisted in accessing the online services provided through the Library's live web pages, and also through the Deakin Learning Toolkit.

Deakin Learning Toolkit

The Deakin Learning Toolkit is a CD rom of software and information resources distributed to all of Deakin's students and staff. It provides software, information and gateways to support the IT based flexible learning and teaching programs of the University. The Deakin Learning Toolkit facilitates and encourages the use of IT facilities to enhance both remote and on campus students learning experience.

The Deakin Learning Toolkit contains software that is of general use to students such as:

- Netscape Communicator
- Eudora for email
- Anti-viral programs
- Adobe Acrobat reader to view pdf documents
- Commercial computer based training modules
- Installation kit for Internet access

FirstClass conferencing software is also included as part of the University's flexible learning and teaching.

There is also software to enhance access to Library information resources such as:

- WebSpirs/WinSpirs/MacSpirs for database access
- Endnote. For bibliography construction

In total there are 24 software programs for Windows and 20 for Macintosh packaged on the Toolkit for students to install and use. Manuals and guides are provided in pdf format.

Other information on the Deakin Learning Tookit to assist students in using University services and facilities includes:

- Undergraduate and Postgraduate Handbooks are accessible through a web browser
- Library discipline based subject guides.
- Three Library created tutorials:
  - Using the Internet for Research Tutorial,
  - EndNote Tutorial
  - Accessing SilverPlatter ERL databases tutorial.

The Deakin Learning Toolkit acts as a portal into Deakin and external web sites giving the students access to:

- Online conferencing
- Library online help
- Library indexing and abstracting services
- Electronic full text journals
- On line study guides
- Access to study skills material
- Online career and health advice

To enhance the services provided on and through the Deakin Learning Toolkit the Library also provides:

- Telephone enquiry services
- Off campus Library delivery services

Library staff produced three tutorials to assist students in learning how to use the new electronic services, after student focus groups identified this as a top priority. These were – Internet Searching, Use of End Note (bibliographic software) and Use of Web/Win/MacSpirs for searching the Silver Platter ERL databases.

Students also required easy electronic access to both databases and the Library catalogue, as well as an ability to submit requests for material electronically. The Toolkit provides an electronic forms section enabling submission of requests while on line, and email access through Eudora.

More than 37% of off campus requests for library materials are now received electronically, doubling in two years. The Web/Win/MacSpirs software enables easy access to and searching of over 150 electronic databases while Adobe Acrobat software allows easy reading of full text articles, particularly those containing graphics.

The Library maintains a library conference site, an FAQ site and a watching brief on all Student Services and Post Graduate conferences. Additionally, it provides, through the Library Home Page, an electronic "suggestion box" and an electronic "information desk", while the Off Campus Library Service deals with email enquiries from external students. Up to 100 people may read individual messages posted or queries answered by Library staff on the conferences. As many as 200 email enquiries are received from external students each month, the majority being answered within 24 hours.

Students required access to electronic documents such as past exam papers and lecture and tutorial notes, and an ability to view details of their library borrowings. This is possible for both on campus and external students, with the added bonus that all students may now renew their loans and check penalty points for late returns of books while on line.

A full library service is provided for all external students, irrespective of where they live. Books and photocopies are supplied, with a pre-paid return bag included for books, a near unique feature in distance education library services. Return airmail postage for overseas students. Students can request items by mail, phone, fax, email, Web form and direct on line order from the Library catalogue, while a phone service is staffed 12 hours a day. A "subject request" service is also available to assist with information for assignments and projects. In 1998, 82,000 requests were processed, with 55,000 books and 22,000 photocopies being supplied and 1,000 subject requests handled.

Library home page

Deakin University Library's web offerings are mirrored in both the Deakin Learning Toolkit and The Library home page.

Elements and issues considered in designing the home page were:

- relative simplicity – easy to use / intuitive
- text descriptions of links
- making the Library Web Catalogue prominent
- shortcuts to high use options
- the 'style' had to be carried through the site and onto the Catalogue
- it had to be informative, interesting and enticing!

Key elements covered are:

- Search the Catalogue

- Information Resources
- Library Services
- Assistance and Training
- About the Library
- Additional elements:
  - News
  - Shortcuts: Opening Hours / Databases / WebSpirs / Electronic Reserve / Past Exams / Renewing Your Loans
  - Link to a Text Version
- Plus a lower navigation bar

Web catalogue

The Library uses the Innopac integrated library management system. The Web Catalogue was introduced in 1998, keeping a text interface within the Library. In 1999 WebPac was introduced within the Library, although a telnet version is still available, it is not given prominence.

The WebPac was designed in conjunction with the home page and customised to suit Deakin's requirements. The Library is continuing to refine the design to improve service. Within the Library, to overcome the issues of catalogue users surfing the web, a software 'mask' solution was introduced. The Library selected the NetShift software to provide a control over a browser on the public access catalogue PCs. NetShift disables the operating system and browser and becomes the interface to the application.

Within the catalogue the Library has 'hot' linked all its electronic resources. This integrated approach ensures that all formats are available via the catalogue, the controlled vocabulary and powerful search capabilities of the catalogue provide precise access to titles and users have only one place to look to find information.

Only URLs contained in the Library's catalogue can be accessed through these workstations. However, Library users can still surf the net from EIWs.

In order to assist students the Library has created a 'form' index of reading list material. A student need only know their unit name or code to easily access catalogue records for their required and recommended reading materials. If the reading material is electronic a hot link click will deliver it, otherwise students can request the items.

Finally, some URLs:

- Deakin University Library Home Page — http://www.deakin.edu.au/library/
- Library WebPac — http://library.deakin.edu.au
- NetShift software — http:// www.netshift.co.uk

Library services at Athabasca University: change the same

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Introduction

Athabasca University (AU) is Canada's Open University, and specializes in the provision of distance education courses at the post-secondary level. The admission requirement for undergraduate students is that applicants to the University are 18 years of age. Students may take courses leading to a number of certificates and degrees — AU offers 15 certificate programs, 13 undergraduate degree programs, and 3 graduate programs. The number of AU graduates is increasing year by year and there are an increasing number of students who enroll in a course at AU to transfer the credits to their home institution upon successful completion of the course at Athabasca University. These *visiting students* may take an AU course because a course is not being offered at their home institution, because there are timetable difficulties at their home institution, or because they want to take a course in addition to their course load at their home institution. A large number of students come to AU because they prefer the flexibility that is part and parcel of taking a distance education course. Students also may wish to take an AU course for their own interest, simply because they wish to "take a course".

Since its inception in 1970, Athabasca University continues to experience growth in both its undergraduate and graduate programs. The growth rate in course registrations is now at an unprecedented level, and is largely attributed to the quality of the learning experience offered to the students: the high-quality materials coupled with the high quality support services that are provided and included in the tuition fees. Among the units in the University that provide support services to students it is believed that a quality library service has in the past, and will continue to contribute to the growth and success of Athabasca University.

A survey of Athabasca University students in 1997 revealed that 98 per cent of AU students would recommend Athabasca University to a friend or colleague. The findings of this survey were also supported by the findings of a series of three teleconference focus groups conducted in 1997 by AU Library to determine the level of student satisfaction with library services.

Participants in the focus groups conducted by the Library reported that they were highly satisfied with materials supplied from the Library and that Library staff are knowledgeable and helpful and "go the extra mile" to help. Students reported that they appreciated that materials sent to them could be returned to the Library postage paid by the University. Most students were satisfied with the available on-line services although they reported that some students may be unaware of such services. Participants also reported that there is a need for more instruction and explanation of techniques to access the available services.

This series of three focus groups also confirmed that more AU students are acquiring computer equipment and obtaining connectivity to the Internet. More AU students, it is concluded, want to do more of their own searching and researching. AU Library is working diligently in this regard and has entered into reciprocal agreements with other institutions and has licensed more databases for access using the Internet.

Library services

Athabasca University Library provides a full range of library services to students registered in AU courses. Every registered student may benefit by the following services provided to them by AU Library:

- Students may borrow materials from AU Library.
- Students may search AUCAT (the library catalog) and other information resources available on the AU Library's web page.
- Students may expect library instruction and research assistance.
- Students may request interlibrary loans (ILL) for journal articles.

Since the early 1970s when the University was founded and since AU Library was developed, the Library has evolved and developed enormously. AU Library first occupied an area in the basement of the office building in Edmonton, Alberta. The collection at that time was quite small and supported but a handful of courses. In 1984 the University was relocated to the Town of Athabasca, Alberta and now occupies the largest area in the central office facility. The collection has been developed to about 130,000 items; these materials are used by faculty in the preparation and development of courses and by AU students who are registered in one or more of the more than 400 courses offered by the University.

The Library has established a service benchmark of responding to all requests to the Library Information Desk within 24 hours, or the next working day. Most recent data indicates that, not only are responses made, but that about 85% of the time the materials are sent out within 24 hours or the next working day.

Changes

As mentioned earlier, changes in the location and size of the Library have taken place during the history of Athabasca University. In addition to the changes to the physical location and description of AU Library, other changes have taken place in how the AU Library conducts its core business and in the way users acquire information. The following points identify some of these changes.

- From a time when communication was based primarily on telephone and mail as a means for requesting materials, students *now* are able to request materials by fax, email, and directly from the library catalog.
- From a time when libraries built their own collections independently, libraries *now* collaborate with others on initiatives such as joint licensing and collection rationalization.
- From a time when students expected services primarily from their home institution, students *now* benefit from formal and informal agreements that are made by the home institution with other institutions (reciprocal loan programs).

- From a time when the library was the primary place to go for information and to study, *now* mega-bookstores provide thousands of items and journals for patrons to peruse in the comfort of stylish reading areas while having a café late.

- From a time when a book order was made through a bookstore or distributor (and it could take several weeks to receive), *now* orders can de done electronically or through online bookstores with users inputting their credit card number and choosing priority delivery if necessary.

The technologies and processes used by libraries and information seekers have evolved over the years and now provide new and more efficient ways to conduct the core business of the Library. The expectation of our users/students, however remain the same — students still expect to receive high quality service and receive high quality materials in a timely manner. It may be argued that the service expectations of library users are higher than ever before.

In 1999 AU Library purchased and has nearly completed the installation and implementation of a fully integrated and web based library system. The new INNOPAC library system makes it possible for users to search the catalog and request materials directly from the catalog, for users to view their patron account and renew their materials, for users to search other library catalogs, for users to search online databases from the library's web page.

At the same time, the new system makes it possible for library staff to catalog Internet resources, to mount help sheets and user information, to gather more meaningful statistics regarding library usage, to make it possible for the distance education student to conduct his or her own research.

At Athabasca University Library, we believe that we are keeping pace with the expectations of our students. At the same time we are cognizant of the fact that we (the Library) must continue to provide services to those students who are not technologically advanced and who for one reason or another require library services of a more traditional nature. It is for this reason that the AU Library Strategic Plan to the Year 2000 articulated four points regarding the development of library systems and the information gateway:

1. Users who cannot connect to and search electronic sources directly will benefit by library staff doing so on their behalf.

2. Users who have the facility to connect and search, but do not have the expertise, will benefit from library staff teaching them to do so.

3. Users who have the facility and expertise to connect and search will be guided to apply this to their search for scholarly information.

4. Users with a high level of expertise in electronic searching will benefit from subscriptions held by AU and linkages to electronic resources.

The development of the Library's web page as an information gateway now makes it possible for the online catalog, online databases, selected Internet resources, and user help sheets to all be brought to-

gether and accessed from one point. The library user may initiate this access either on- or off-campus. This access may also be conducted (mediated) on behalf of a user. A web proxy server provides for automatic patron verification and authentication and makes it possible for users, regardless of their Internet account, to access the *system*. This technology now makes it possible for users, regardless of their geographic location to access information when and where it is most convenient for them to do so. In this regard, the Library is *open* 24 hours a day, year round.

This said, and while the Library is *open* at all times and to all authenticated users, it is our experience that users more than ever require *help*. They need help connecting, help selecting an appropriate database, help refining a search topic, help preparing a search strategy, help conducting a search, help selecting appropriate search results, help locating resources, and help citing their sources.

In this regard, the majority of services provided at the AU Library Information Desk remains the same as it did in the early 1970s. Now, however, more requests to the Library Information Desk arrive via an electronic means, at a faster pace, and in a climate of "I need it as quickly as possible – will you fax it to me?"

Athabasca University Library now makes more information available to users at their workspace than ever before. More than 30 online journal databases are accessible through the Library's information gateway. These databases provide bibliographic citations and some abstracts. In addition some of these databases provide the fulltext of journal articles. A recent analysis of seven journal databases that include fulltext revealed that journal articles from more than 2500 unique journals are available online. This provides for a one-stop-shop: one that is updated frequently, is searchable, and that provides the actual content by providing the full text online. At this point the content may be viewed, downloaded, printed, or emailed.

The Library has a number of mechanisms in place in its library system to capture data regarding connection to the library system and use of the electronic databases. Recent analysis of user connections to databases on the library server clearly indicates that the databases that provide full text online are accessed the most.

Recent analysis of service usage of the AU's library proxy server revealed that the system *is* accessed twenty-four hours a day. While the majority of use happens during the working hours of local time, there are connections occurring in the wee hours of the morning — indeed, "around the clock".

While in the early days of Athabasca University the majority of students served by the University resided in Alberta, more students now come to AU from across Canada, and overseas. Recent analysis confirms that the majority of users continue to come to the AU Library information gateway Canada and North America. However, a counter that records the country of the user account's top domain confirm that users of AU Library's information gateway/web pages come from all continents of the world.

Data collected also indicates that users are connecting with high-end graphical browsers and are using computers with high-end operating systems. This is no particular surprise as the cost of computer equipment and Internet connectivity is coming down dramatically (in North America for sure).

The same

In an environment of significant change of processes and technologies and of our users, many of the underlying principles of library use and the quest for information remain the same. The saying "the more things change the more things remain the same" remains true. For example:

- Users of AU Library services and materials continue to contact the Library Information Desk on an individual basis. A noted increase has occurred in the number of electronic (e-mail) requests. The use of the telephone remains as a primary means for contacting the Desk — even though more messages are left on the voice-mail answering system. The telephone also remains as a primary mode of communication as noted by the number of telephone calls actually taken at the Library Information Desk.

- Users of AU Library continue to contact the Library Information Desk for *help*. Users know that the Library phones are open and that the Desk is staffed at all times during University hours. Users who have contacted the desk for answers and help with their library related questions now continue to contact the Library with their questions concerning technology and electronic issues.

- Users who have been satisfied with the Library's services continue to use the Library's information gateway. In this regard, staff members who serve on the Library Information Desk are available to assist users in the transition from holdings to access, and from print-based to electronic resources.

- Users who have benefited by the Library's commitment to respond to requests within 24 hours or the next working day continue to expect this high level of response to questions in the electronic environment.

- Users who have requested books and articles on an individual (title) basis must continue to search and request materials on an individual basis. While the format has changed and the capacity to deliver materials has changed — the item primarily remains as a distinct one.

- Users continue to rely on accurate bibliographic citation and cataloging. While the information in electronic formats can be zipped and compressed and while the capacity to process electronic information has increased, it is all the more critical that information be accurately marked, coded, and tagged for retrieval.

- Users must continue to cite their sources. Scholarly communication and activity continues to require users to give credit where credit is due. In an environment in which students have the technology and skills to download and "cut and paste" it is more difficult to identify academic misconduct.

Summary

Athabasca University Library is committed to providing high quality and expedient service to AU students. The tools available to the Library for it to carry out its core business are now more advanced and more accessible, yet continue to require strategy and clarity respecting their application. The amount of available information continues to increase at a phenomenal rate and consumers (students) who have busy lives with multiple responsibilities continue to require assistance with respect to their information needs.

Yet even with all of the advances and changes in technology and formats of information, the underlying academic research process remains a sophisticated one which requires accountability, critical analysis, responsibility, and skill and strategy.

The human factors in developing electronic library services

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The important "people" factors

Many people in the library world believe that electronic libraries can simply be grafted onto traditional print-based libraries, and that the management culture which has been developed for "analogue" services is equally appropriate for the electronic library. However, there is growing evidence, both from research projects and from library managers themselves, that a different organizational and managerial culture is required for successful electronic libraries. Indeed, there are considerable human, cultural and organizational challenges in developing and sustaining electronic libraries. Significant "people" factors include the culture and organization of our parent institutions; the culture and values in the library service; the organizational structure and management style of the library; and the effect on library staff themselves. The users, suppliers and the other stakeholders may also influence electronic library development.

It is also interesting to reflect on the skills and attributes required of the "electronic" or "digital" librarian, who is sometimes referred to in rather unflattering terms as the cybrarian, or cyberpunk librarian, or even the hybrarian!

It is perhaps inevitable that the other factors involved in developing electronic libraries have received much greater attention than the human factors, and many of these will be discussed during this conference. They include content creation; connectivity; costs; communications and information technology; copyright and other legal issues; bibliographic control; quality control; and preservation. There is also the whole question of user interfaces and gateways, and enough acronyms to keep even the most enthusiastic librarian happy!

Electronic services at the University of Sunderland

We have considerable experience of electronic information services within Information Services at the University of Sunderland. We provide one of the largest and most heavily-used electronic information networks in the UK higher education sector, with something like 250 databases and 5,000 full-text electronic journals available on campus. We have just launched the UK's first City-wide networked electronic information service with 1,500 full-text journals made available in the University, City College and the public library, and potentially all around our Learning City of Sunderland. We have also created digital databases of examination papers, module guides and reading lists (that is when we can get them out of the academic community!). We have launched a glass Web site, and we have plans to create more digital content of local history and archival material. We teach information skills within the University, to schools and to professional groups in the City

We are particularly interested in the human factors necessary for effective and sustainable electronic library development, and we are engaged in a couple of research projects funded by the EU and the former British Library Research and Innovation Centre. Identifying the critical human factors will assist library managers in developing electronic libraries and in making the necessary organizational and cultural shifts, and will also inform the training of library and information professionals.

A few interesting points emerge from this experience. Despite all the research and all that has been written, it has to be said that we are very much at the *start of the electronic adventure*. There are *no established rules* for the development of the electronic library, and we must admit, at least to ourselves, that we are really *making it up as we go along* (Hastings, 1996). Indeed, some even argue that the electronic library does not really exist, although it seems clear to me that I am managing a hybrid library service which has both "analogue" and digital components, and that this mixed economy is likely to persist for the foreseeable future.

Digital librarians and institutions

Electronic libraries need digital librarians. As Hastings and Tennant (1996) observed in their excellent article, "It is more important that digital librarians possess particular personal qualities (which are innate) rather than specific technical expertise (which can be learned)". They suggest that the digital librarian requires certain distinctive personal qualities, and they present a challenging list which could form the basis of the job description of the future:

> *"Digital librarians must thrive on change. They should read constantly (but selectively) and experiment endlessly. They need to love learning, be able to self-teach, and be inclined to take risks. And they must have a keen sense of both the potentials and pitfalls of technology.*
>
> *Any individual with those qualities (or some measure of them) is an excellent candidate to forge new methods for accomplishing the age-old mission of libraries to select, acquire, organise, provide access to, and preserve the intellectual and artistic record of humanity. We are after all making it up as we go along. We need professionals who don't need a lot of guidance or hand-holding. We need individuals with imagination and foresight and the ability to make their vision a reality."*

Turning to our organizations, Davis (1997) reminds us that the electronic environment is very different from the print-oriented culture:

> *"it has always been recognised that some shifts in culture, both for libraries and other stakeholders in information, were crucial if electronic libraries were to make a real difference".*

The parent institution

The role of our parent institution is a particularly interesting one. Some librarians suggest that success can only be achieved with the full support and strategic commitment of the institution, whilst others believe that change happens almost despite the parent organization. It seems that change can effectively be driven top-down or bottom-up, but many library managers have found themselves in the latter rather more than the former position!

Some institutions have the benefit of an Information Strategy, but many of these strategies focus erroneously on technology and communication issues. Very few information strategies explicitly address the fundamental information issues, let alone the crucial human factors, which both underpin effective strategic development.

There are a number of influential factors, including managerial vision and leadership; management style; the way in which decisions are made and communicated; the structure of the organization; the extent to which different parts of the organization work together, particularly the integration of personnel and financial management with strategic planning; and, of course, the overall level of resourcing.

It is clear that an effective electronic organization is very different from an analogue one. Whilst some institutions, particularly in the private sector, have adapted quickly to this new challenge, others have struggled to "learn" how to become a successful organization in the digital age. It has been suggested that universities, who ironically are in the business of learning, are amongst the slowest learning organizations in this respect!

Service culture and values

The electronic library clearly has a different "culture" from the traditional library service. One can only speculate as to whether the "cultural shift" involved is a prerequisite of electronic library development, or whether there is a "cultural lag", and change results from the introduction of electronic services.

Ferguson & Bunge (1997) suggest that digital librarians should develop new service values in addition to the "timeless" library service values of equity of access, personal service and meeting user needs. They say that in the electronic age, the emphasis should be on making technology work for all; on delivering core services through networks; on integrating technologies and maintaining holistic computer environments; and on collaborating across administrative lines. They seem to be stressing the importance of delivering electronic information to all those who require it by exploiting information and communications technology, and by breaking down unhelpful departmental barriers.

Library staff

It is important for library managers to consider the ways in which they can actively lead and facilitate the development of successful electronic libraries, both in terms of organizational structures and management style, rather than simply concentrate on the effects of electronic services on service staff. This goes well beyond the predictable need for additional staff training and development, although training groups of staff together for change, team working and skills development is a very useful approach.

Different staff attitudes, skills, abilities and motivation are all crucial, and this challenges the traditional ways of selecting staff, and the type of qualifications and experience normally required. New forms of structure, organization and operation are needed, and staff often assume greater responsibility and more flexible working arrangements. Staff are concerned about the new skills required for electronic services and about the effect of automation on their career progression. In one way, the electronic library is more centralized in its operation but in another, it can be more decentralized in the delivery of services. There

are questions for managers in the way in which they lead change and innovation, since both of these have a profound effect on staff.

The IMPEL project has revealed the considerable social and organizational impact of electronic libraries on the staff who work in them (Day, 1997; Edwards, 1995; and Walton, 1995). This includes changes in workload; concerns about effectiveness in work, job satisfaction; job security; the importance of technical expertise and confidence with ICT; and certain feelings of isolation from both colleagues and users.

Users and suppliers

It has been suggested the users should become involved in the design of electronic libraries, especially in the design of interfaces. Users and library staff alike will be affected by any trend towards the use of machines rather than humans for services, enquiries and assistance. Whilst our users have become "empowered" to access all sorts of electronic information easily, some remain dubious and even frightened of the electronic age, and many retain their strong "emotional" ties to print on paper.

Engaging the suppliers of electronic information is also important in delivering high quality services.

Job specification for the digital librarian

It seems that the skills, knowledge and experience required to be a digital librarian are very different from those required of the "analogue" counterpart. Indeed, one can speculate about the person specification for the post of a digital librarian which might read something like this:

> We require a professional who has the skills and experience to turn our vision for a digital library into a reality. You should be imaginative and thrive on taking risks and change; you must be independent and flexible; you will read constantly and experiment endlessly; and you should love learning and be self-teaching. You will have an understanding of the potentials and pitfalls of communications and information technology to achieve the digital library. Above all you must have an understanding of the human factors involved.

In our experience at Sunderland, it has become difficult to recruit staff to ICT posts who have the necessary mix of information, networking and people skills. This is certainly true in relation to the salaries we are able to offer in libraries compared with the private sector! It is interesting to note that successful digital librarians have often been self-starters who have picked up the relevant skills through experience and on-the-job training rather than through any formal ICT qualifications. We also badly need professionals who can think *information* and *learner* rather than institution, and who can manage in a "joined-up" way, across the traditional sectors of library provision. It is reassuring that some library schools are encouraging this approach.

On the other hand, it is probably true to say that many of these qualities are just as relevant for analogue as electronic library managers and, since most of us continue to manage hybrid libraries, they are really the generic skills required to be an effective manager in today's library and information services.

Our electronic future

There are a whole range of human factors which are important in creating the environment in which electronic services can be effective and sustained. There are considerable human challenges for our institutions, library management and our staff.

In a way, the electronic library has broken the mould of traditional approaches to the organization and structure of libraries and, in particular, this has challenged our views of recruitment, career development and behaviour. Library managers have responded by developing their service strategies and by providing staff training and development, especially in the area of ICT. It is interesting to note that companies who have successfully embraced electronic ways of working have witnessed more dramatic shifts in power, influence, style, conflict and motivation within their organizations.

In contemplating our electronic future, we must be careful not to be too prescriptive. Many of our electronic services work very well, even though sometimes we are not quite sure why! We must avoid simply responding to the short-lived difficulties of today's technological challenges. Technology is changing fast and we know, for example, that the electronic library of tomorrow will be a more interactive, multimedia environment than today. We should not discard our traditional skills since it is likely that we shall need librarians with both analogue *and* digital skills for many years to come.

Electronic information is a great leveller, and users can increasingly retrieve the information they require from home and other places, as well as traditional libraries. Libraries could lose their "monopoly" of information provision in their particular organizations, and we run the risk of becoming displaced by other service providers. Digital TV, cable and satellite channels, Microsoft and others will all become increasingly important in the delivery of electronic information and learning materials to people when, how and where they require them, particularly for the new distance and lifelong learners.

Libraries are a network of social "places" which are trusted and accessible to learners of all ages in our communities. We provide access to a rich and diverse range of information sources, including electronic services, and we also provide the serviced equipment and supportive staff required for successful electronic service delivery. The library is the hub for organizing and distributing networked electronic services. It is one place where the information have-nots in society can access electronic sources. Librarians are also developing new roles in the electronic age as advisers and navigators through the maze of information available electronically.

A full understanding of the human, cultural and organizational factors will assist library managers in grasping the nettle and developing effective, high-quality electronic information services. In this way libraries, and the digital librarians who manage them, can retain their justifiable position at centre stage in the Information Society and the New Learning Age.

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Changes and challenges: ICT–Library–Library staff

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In my contribution to the Conference I will focus on my experiencies at Linkoping University and its library, which are also relevant for Swedish university libraries in general.

From the beginning I will stress that my opinions and observations emanate from my almost 20 years of experience as a teacher in history at Linkoping University, as a representative for the Faculty of Arts and Sciences during the 80s and since 1992 as chief librarian at Linkoping University Library and since 1995 as pro-Vice-C ncellor at the university.

Linkoping University, which was founded at the end of the 1960s, is divided into three faculties (Arts and Sciences, Technology, Health Sciences). The total amount of undergraduate students numbers 21,000. There are 1,100 graduate students and a staff of 3,000..

Linkoping University Library started together with the university and was from its beginning given a decentralized organisation which is still in operation. The library is at present divided into eight branch libraries (Humanities, Science and Technology, Economics and Business Administration, Medicine and Health Care etc.) an organization chosen to prevent the possible growth of independent libraries at the departmental level. The organizational model means that there are rather narrow links between the library, the library staff and our principals, the faculties and the departements.

The library is almost totally funded by government money. The budget is based upon negotiations between the university library and each faculty, represented by its dean, and with the central administration at the university. For this year roughly 60 percent of our resources came from the faculties and 40 percent from the central administration.

The rapid development within Information and Communication Technology (ICT), enabling endless new possibilities and more efficient and quicker ways to (scientific) information, is of course more and more reflected in the various undergraduate education programs. Greater emphasis is put upon problem based learning and other student-active learning processes instead of traditional teacher-centered education. A university-educated person is to a growing extent expected to be able to find, choose, evaluate and bring out new knowledge within her/his field of study. Information literacy thereby will be an important object for future undergraduate education.

Due to these trends the university library is becoming more and more important as the daily working- and meeting place for growing amounts of students. At the same time the library of course retains its traditional and historical roles. But compared to a few years ago the library staff now has to develop new roles

in planning as well as giving courses integrated in the study programs in the different faculties. The library has to actively put itself forward as an educational asset.

At the same time there is a growing need for the library staff to acquire more ICT-know-how, a special challenge considering the fact that our librarians, similar to many others elsewhere, are already well educated and knowledgeable with a disciplinary background within the humanities and social sciences. So special measures have to be taken to further develop staff competence — within the present budget.

Swiftly rising costs for subscriptions, hardware and software, growing expectations from students and teachers together with limited resources means tougher budget fights between the library and our principals, the deans and the vice-chancellor. We have to do our utmost to put forward the library as an integrated and profoundly important part of the university. So the deans and the central administration meet both as friends and colleagues and — from a financial point of view — as opponents. That is another special but also inspiring challenge.

In the years to come Linkoping University will have to expand its activities in the field of continuing education. The off-campus students are dependent upon finding library resources on-line. But there is also a challenge to give those students possibilities for common studywork, individually and in groups. In order to meet such needs we have to further develop and broaden cooperation between the university library and locally financed public libraries in our region.

Linkoping, September 1999
Christer Knuthammar

The library of the Open Polytechnic of New Zealand

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Background

The Open Polytechnic of New Zealand is one of 25 polytechnics in New Zealand (there are also 7 universities). However, The Open Polytechnic is the only tertiary institution in the country that concentrates entirely on providing distance education courses and programmes. It therefore attracts students from throughout the country, and takes around 30,000 enrolments every year. The level and range of subjects taught is broad and changes according to perceived potential markets. This can create real challenges for the organization and the library, when, for example a whole new discipline area like psychology is added to the academic portfolio and courses and services have to be established within a period of months.

Due to the distance education mode in which we work, The Open Polytechnic includes in its structure, a Course Design Unit as well as its own Publishing Unit. There is a continuing cycle of course development and course revisions occurring all year round. It is this mode of working which I believe gives this Library a particular opportunity to be seen to actively contribute to the integration of library use and information skills into the course material itself, thereby overtly demonstrating the library integral role in the education process.

The Library of The Open Polytechnic

Background

Prior to November 1991, the Library employed 3 staff, was poorly funded and operated to provide a fairly low level of library service to teaching staff only. All course material was deemed "self contained", and students were not expected to seek resources beyond the supplied material.

Due to government legislative changes, and the Polytechnic's decision to move into degree level teaching, an external review of the Library was undertaken. This saw the staff increase to 5, with the recruitment of a Reference Librarian (the first such), and a Library Manager. I think it is true to say that the Library has been in rapid development mode ever since. The Library has been "automated" (we use the GEAC Advance Library Management System), staff numbers have grown to the current level of 25, and we have developed a reputation within the Polytechnic, and externally, for a high level of service performance. The Library consistently rates the highest score in the Polytechnic's annual student satisfaction survey, and we pride ourselves on modeling good customer service and making a positive difference in the Polytechnic generally, as well as in our library-specific work.

Library staff are currently grouped into teams which represent the two direct service arms of the library (staff and students), as well as Technical Services, Systems and User Education. Traditionally collection management responsibilities have been shared across the library, but it has become clear that to progress, we need a dedicated senior professional leading and co-ordinating this aspect of our work.

Services to staff

There is a team of 6 staff who concentrate on providing information services to the staff of the polytechnic that support teaching, research, course development, management and the development of the organization and its business. This part of the library operates in special "library mode", and is increasingly having to segment its customer base and target services (with an increasing emphasis on user education). A further developing area for the immediate future is to market potential services to external customers, many of whom have an existing relationship with The Open Polytechnic through having purchased other services or products from us.

Services to students

The core objective of the *Student Library Service* is to provide a range of information services to students that positively differentiate the Polytechnic from other post-compulsory education providers.

The main aims of the *Student Library Service* team are to:

- Provide students with timely loan and subject request services;
- Increase student information and research skills to support the development of lifelong learners;
- Undertake proactive and regular tracking of the progress and content of all new courses and revisions going through the course design process to ensure appropriate resources are available to support student requirements;
- Liaise with students and Open Polytechnic staff from the Library, Course Design, Copyright and Faculty to address any course related issues that are significant to the Library.

All our students are studying at a distance, so to encourage Library use and provide equity of access to resources, they can contact the *Student Library Service* by free phone, free fax, e-mail or mail. Within New Zealand, material is delivered and returned by courier at no cost to the student. We set ourselves performance measurement targets that ensure we maintain responsive and timely communications with our students who, are more often than not, working as well as studying with us. The Polytechnic also maintains an Internet web site for students at *www.topnz.ac.nz*, which offers students another way of accessing our services.

Future development

In the near future, the challenges for us have a lot to do with the changing balance between holding print collections of material and providing access to electronic resources. This changing balance is the major reason we need to review the library structure and find different ways of managing collections and access to resources.

There is always pressure to achieve "more with less" and one of the library strategies to deal with this, is to offer library and information services to external, paying customers. It goes without saying in this environment, that "continual improvement" is the norm!

Other trends, which I am sure other educational institution libraries have identified, are to do with user education, and gaining recognition, as partners in research, and the educational process generally. Recent initiatives in this area have included one library staff member writing a book on Internet searching strategies, which The Open Polytechnic is about to publish. My editing and compiling a learning "Support Handbook", written specifically for Open Polytechnic students, as well as being asked to write research modules for a diploma course currently being developed by the polytechnic. Our contribution to the polytechnic's website development and in the records management area, has also contributed to demonstrating a broader range of skills than might be traditionally associated with librarians working in an educational institution. I believe this is vital to our future.

A brief presentation on the use of information and communication technologies in Peruvian libraries

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General country information

Peru is a republic with a population of a little more than 22 million people, with a 65% urban concentration. It is situated just below the equator on the South Pacific coast of South America, with more than 1.2 million square kilometres of territory, of which more than 60% is covered by the Amazon jungle. Most of the population is located in the coastal towns, like the capital, Lima; this city has around 8 million inhabitants.

After more than 16 years of unstoppable inflation, currently the economy is stable although recessed. A leftist rural guerrilla group and some others political and criminal bands created a long period of violence that caused more than 30,000 deaths and a serious disruption of the rural highland areas of the country.

The official illiterate population of the country is around 13%, but a high level of school desertion and lack of continuing opportunities for learning cause a significant although non-officially estimated percentage of the population to be in a state of functional illiteracy. The literacy language of the country is Spanish, but there many native languages spoken in the highlands and jungle, by the rural aboriginal population, without a minimal presence of printed materials in these ones.

The library profession

There are two library schools in the country, both in Lima and both teaching at B.A. level. Between the two, the total registered student body is less than 100 concurrent in all five years of teaching.

The only professional association is the Colegio de Bibliotecologos del Perú, state-sanctioned as all the Colegios in the country. It has around 250 active members, with an annual increase of between five to eight members. There are another 300 librarians in the country, but lacking a professional degree (more than a B.A., less than a M.A.) or acting as librarians but trained in other professions. Almost all the professional, Colegio-member librarians of the country work in Lima.

Internet connectivity

Since 1994 Peru has been connected to the Internet. Currently there are two ISPs, the Red Cientifica del Perú (Scientific Network of Peru) and Unired/Infovía, departments of the main PTT operator of Peru, Telefónica del Perú (a subsidiary of Telefónica de España). All the major cities and almost all university-level institutions are connected, although the level of connectivity and its spread within the organizations varies. There is no public subsidy nor does it exist for academic and scientific access to the Internet. The

regulatory agency of telecommunications estimates that some 600,000 Peruvians (3% percent of the population) have access to the Internet, although no information on the methods for collecting this figure has been released.

At the universities, the single most popular use of the Internet is e-mail, followed by browsing the Web. Very few institutions provide any kind of value-added Internet services, including library catalogues or distance learning, and most of them are private universities located in Lima.

Library services and institutions

National Institutions

The National Library is by law the head of the National Information System. However, reality shows very little leadership from the National Library in matters of library and information services, due to serious limitations in staff, technical resources and budget. Expected to move at the beginning of next year to a new building, the National Library tries constantly to improve its support to public and school libraries outside of Lima, focusing most of its resources on that specific subject.

The National Library does not act as a national bibliographic agency, nor as co-ordinating centre for ILL, nor as a standards body for library matters. In terms of technology, it tends to subcontract specific projects based on special budgetary assignments, or off-sources technical management of services branded as prepared by the National Library. Recently there has been news about the acquisition of the Aleph Library System for automation and web access to the National Library catalogue, though there has not been a formal release for this acquisition nor of an estimated date of delivery.

University Libraries

Some university libraries have the resources needed to keep collections up-to-date and well-designed services running. The Peruvian web-accessible library catalogues are based on these institutions. Sadly, they are a minority, since there are many universities without even the pretence of a library. Since there is no formal national co-ordinating body, nor acting consortia, there are little or no ILL activities, nor active exchange of bibliographic data. There is little tradition of co-operation and sharing in this sphere.

Public libraries, school libraries

These two are put together since technically they depend on every local mayoralty /school board but have co-ordinating institutions at the national level, being the National Library in each case. The National Library has no budget nor power to lead these institutions, only to give support; the decision power rests on the local authority. Having said so, the counties with more resources tend to have adequate libraries. At the school level, there is no current information on the resources being invested nor there is any kind of formal follow-up of activities by the national authorities. The estimation tends to consider school libraries in public schools as very poor.

Technology market

Automation software

Most of the libraries use Micro CDS/ISIS. Although there is no formal users' group, e-mail lists are used as a thriving exchange mechanism. Since many libraries are unwilling or unable to acquire commercial software for their catalogues and services, there are many locally- or regionally produced extensions of CDS/ISIS that allow interfacing with a web server for Web access to the catalogue.

Some institutions have developed their own solutions based on different combinations of software (there's one using a Lotus Notes/Domino solution). The Pontificia Universidad Católica del Perú is the only institution currently offering web access to a fully automated library catalogue, using Sirsi's Unicorn. But for the recent acquisition of Aleph by the National Library, there is no other commercial installation in the country.

Database market

There are no commercial database products made in Peru. Most of the library-related databases are mostly multimedia collections, that are made or sponsored as a cultural-extension product by commercial institutions.

Since there is no national bibliographic agency, there is no significant experience on the acquisition of finished library records. Only the Pontificia Universidad Católica del Perú libraries use a Z39.50 to extract records from the U.S. Library of Congress and other similar institutions.

With emphasis on the medical sciences, there is constant acquisition of foreign, commercial databases for use in libraries. In market terms, Peru stands at 7th in South America, only in front of Ecuador, Bolivia and Paraguay and close to Uruguay.

Current position and perspectives of the fundamental library of St. Petersburg State Technical University

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Our library is one of the oldest and biggest among the libraries of Russian technical higher education institutions. This year we celebrate the on hundredth anniversary of the university and, consequently, the library. The famous scientists, public figures and statesmen of Russia participated in library organization: the minister of the finance S.Y. Vitte, economist and philosopher P.B. Struve, historian A.A. Kornilov, economist and statistician V.E. Den and others. Due to rather high financing of the library after its foundation allowed us to create a good collection of both Russian and foreign literature on natural, humanitarian and technical sciences. Some famous scientists also granted their private collections to the library as gifts.

Now the library collection consists of about 300,000 volumes. It covers many technical areas, as well as economics, philosophy, foreign languages, etc. The main goal of the library is to provide information support for the educational and research processes of the university. The library is open for all students and employees of the university. As a whole it has about 40,000 patrons.

The Fundamental Library has 18 departments. The most important are the following:

- Department of acquisition;
- Cataloguing department;
- Department of scientific literature;
- Department of educational literature;
- Department of scientific, technical information and bibliography.

Some documents (scientific journals, periodicals, some textbooks) are available for free access in the Reading Hall. About 500 patrons can work in the Reading Hall at any one time.

One of the most prospective directions of the library's development is the use of telecommunication and information technologies in order to increase the quality of traditional library services and to deliver new ones. In 1994 the electronic catalogue was created. It now has about 35,000 records. The programme for library automation was worked out by the employees of the Library Automation Department.

Connection to the Internet, which was received in 1995, gave new life to library development. The library is available in the Internet at http://www.unilib.neva.ru/lib/

Also in 1995 the Open Library Systems Center appeared. Since then we have been working closely together to apply modern information technologies within the library. They provide professional technical support, possessing powerful servers and complicated software. The staff consists of specialists in computer science.

Our electronic catalogue has been available on-line since 1995 at (http://www.unilib.neva.ru/lib/opac.html). In 1996 the Z39.50 server (the first in Russia) was developed, and the catalogue is available via Z39.50 protocol as well. The Z39.50-HTTP gateway (also the first in Russia) was developed to provide access for Russian libraries to Z39.50 servers all over the world (http://www.ruslan.ru:8001/z3950/gateway.html).

The full text database, which now stores some volumes of the university transactions, is also available via the Internet and Z39.50 environment. Texts however, are in Russian.

The ILL Department uses the Internet for electronic delivery service. The Department participated in the experimental co-operation with OCLC's FirstSearch program in 1998. In 1999 the library won the grant for access to OCLC resources via the FirstSearch program.

In 1999 we started a project aimed at joining four St. Petersburg university libraries within the distributed library consortium. We have created the prototype of shared union catalogue for these libraries. It is accessible via the Internet and Z39.50. We have decided to start with so-called "grey" literature. The service of ordering electronic delivery of the publication found in the union catalogue should be available in October, 1999. Ariel (RLG) system is used for preparing the electronic copy of the document and sending it to the user via e-mail or ftp. The ILL Department will provide this new service.

The Internet Centre for free access to world information resources was opened in 1999. The centre is open every day from 9 a.m. till 6 p.m. and has a total of 10 PC's.

The library uses every possibility to provide access to commercial databases, available via the Internet. We have had experience of working with Questel/Orbit, UMI, Kodecs (the Russian electronic library system for legislation issues), etc. Patrons can order a search with these resources according to key words of subjects of interest. This service is free for students, researchers and educators and is provided by The Department of the Scientific Technical Information and Bibliography.

The training courses for librarians of the north-western region of Russia will be arranged in the Fundamental Library soon. The goal of these courses is to increase the qualification of professional librarians in the area of information. The courses consist of lectures and practical lessons, and are directed towards librarians with different experiences in computer science, coveroing subjects from the basics of computer science (standard client programs, etc.) to advanced library protocols and standards. Librarians will study how to use computers and the Internet to provide library services and to create information repositories, as well as how to create Web pages.

We plan to broaden access to electronic resources all over the world, but there is a problem in finding funding to subscribe to these resources. We are also going to provide access to collections of electronic textbooks and materials for distant learning.

According to financial problems, which are common to all Russian universities, we now face many difficulties. Acquisition has been reduced eight times in comparison with 1989. Last year the staff of the library was cut by 30%. All of this urges us to move to submit grant applications to different foundations, in order to provide some services on a commercial basis, and to find ways to save the appropriate quality of library services. The grants from USIS, Eurasia and the Soros foundation will help us to support further development of the library.

Thus we are greatly interested in implementing reasonable innovations within the library, which will help us to raise the quality of services. We are also open for co-operation and contacts with our colleagues.

Distance education and library resources at Vista University: from unplanned growth to a visionary package

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Historical introduction

Vista University is the youngest of the twenty-one public funded universities in South Africa however, it is, by far the largest of the ten Historically Black Universities in the Country. The university was founded in 1982 following the recommendations of a commission of inquiry to investigate university needs of urban black communities in South Africa.

As a Historically Black University, Vista University shares a number of negative features with other institutions that make up what is commonly known, in the education sector in South Africa, as the Historically Disadvantaged Institutions. Among such attributes are poor and inadequate infrastructures in buildings, equipment, materials, library resources, and social amenities. Geographically, these universities are located far away from business and commercial centres, in less accessible rural or underdeveloped peri-urban areas. By historical designs academic pursuits in these universities are concentrated in 'soft sciences' of education, humanities, and social sciences. The subsidy formula employed by the government has resulted in under funding of Historically Black Universities and contributed to the financial crisis which is now posing a serious threat to the continued existence of some of these institutions.

Overview and composition

Currently the university has a student population of over 25,500 attached to eight campuses that are spread over three of the nine provinces of South Africa. About 40% of the student population are enrolled in distance education. The university offers undergraduate and post graduate degrees in the faculties of Management, Arts, Science, Law and education. One campus caters for distance education and the rest are more devoted to contact students. All contact campuses are located in some of the major black urban areas in the country.

Vista University, as a multi campus institution, is managed at the Central Campus in Pretoria. However, day-to-day academic activities are decentralised at campus level. A similar anatomy of organisation applies to the library. Each campus has a library. Nevertheless, overall library administration, acquisitions, cataloguing and processing of library materials are carried out by the library directorate at Central Campus. On the other hand client services including circulation, library promotion, reference services and user instructions are performed at campus library level.

The advent of a democratic and majority government in South Africa in 1994 created an opportunity to usher in a process of transformation at Vista University. Among the more notable and promising offshoots of this process was the development of a strategic plan and re-engineering of university organs and administrative structures around the new vision and mission of the university. The library seized the occasion to produce a business plan which was neatly tied to the institutional strategic plan.

To date the library book collection has grown to about 407,000 volumes (87,000 titles) and 1,700 serial titles distributed among the eight campus libraries. Under the auspices of the GAELIC; a regional library consortium, to which Vista University is part of, the library is in the process of migrating from ERUDITE to INNOPAC system. The library subscribes to a number of CD-ROM databases accessible to the university community in a wider area network. On-line access to electronic journals and a select number of national and internationally renown remote databases has increasingly become a major course of learning, teaching and research information to Vista University.

Distance learning programme

The establishment of Vista University Distance Education Campus was originally construed as a means to improve academic and professional qualifications of teachers. The main focus was on certificate and diploma levels of education. More recently, however, a strategic decision was made to phase out certificate courses and concentrate on degree programmes. In 1999 over 10400 students were studying at Vista University, under the distance education programme, not only in the faculty of education, as was the case before, but also in Law, Management, Arts and Sciences.

The learning model was essentially based on printed text and more or less emulated tuition programmes offered at contact campuses for full time students. Interactive study guides, prescribed and recommended textbooks and assignments as the main support materials and activities for teaching and learning. Students are expected to buy prescribed and recommended texts. Delivery of learning and teaching materials is by correspondence. Important points of contact in the learning process are Learner Support Centres elected at designated Colleges of Education. At each centre Vista University has engaged, on a contract basis, a tutor assigned to give academic support to students in that region. At appointed and pre-arranged dates students are invited to Learner Support Centres to consult with tutors on issues of concern and attend special lecture sessions to supplement on correspondence materials. These centres also provide students with rare opportunities to share their learning experiences and socialise.

Library services: 1982-1998

Until late in 1998 the provision of library services at Vista University, de facto, precluded distance education students even thought there was no written policy to that effect. The Central Campus Library which was especially intended to serve academic information needs of distance education had a very narrow scope in its human and material resources, facilities and services. Only the teaching staff who were also based at the Central Campus and a limited number of tutors, scattered in a select number of Learner Support Centres, were privileged to use the library.

In the absence of evidence to suggest that the university excluded distance students from library services, deliberately and consciously so, I suppose, one can only speculate on the absence of library services for off campus students. Under funding of the university, referred to above, could have limited the capacity of the university to extend library services to students. Secondly, it appears that there was an erroneous assumption that the materials sent to students were sufficient to meet their information needs at their level of education (certificate and diploma). Thirdly, it seems there was lack of pressure or will, from the library, teaching, students or university administration, for that matter, to make library provisions for distant students. It should also be noted that in the 1980s, more so than before, distance education did not receive much attention in university education circles. Although it was considered an important avenue to create learning opportunities for people who could not attend full time contact education, it was generally considered to be less significant and secondary to contact education. Lack of interest or competition in distance education, from other universities, could also be cited as a contributing factor. Fewer universities than at present, cared to offer tuition in distance mode. Even the number of students following distance education was far smaller than is the case at present, in proportion to students in full time contact education.

Library services: 1998-2000

The Library Business plan: 1989-2000 took note of the plight of distance learners and proposed some important steps to address the problem. Among such recommendations was the establishment of a new position of Campus Librarian to provide leadership in the development of library services for distance learners. To give thrust to the initiative the Library Directorate engaged Vista University academics, who held key portfolios in the delivery of distance education, in a series of discussions to discuss the concept of library services for distant education and probe more viable contents and forms.

As we advanced in planning for the extension of library services to distant learners we came to the realisation that the services would have far reaching implications for staff, resources, equipment and finances but that the library was lacking in these requirements. The fact that our students resided in provinces all over the country, including neighbouring Namibia, made our task even more challenging.

However, we did not have to reinvent the wheel altogether. We solicited advice from libraries in two tertiary institutions that had a longer tradition in distance education and with whom our university was collaborating in a number of areas. From the experience of these institutions, postal services, as a means of sending learning materials, were noted to be unreliable due to delays in delivery and the significant rate of lost library materials. This was particularly problematic in rural and remote areas in the countryside. Incidentally a high percentage of our students lived in the same areas. The common practice and main sources of learning resources was to deposit a limited number of recommended library materials, for students use, in branch libraries or/and by arrangements, in public libraries, located as near as possible to students' residential areas. Given the mitigating factors in resources, equipment, facilities and finances, the urgency to deliver to our students, and the assumption that growth in the population of off-campus students would, in the near future, be greater than that of on-campus students, we found the idea of partnership, with other institutions, to be more viable as a point of departure.

Planning the way forward

If building partnerships with other institutions was the route we were going to follow, what would be the nature of the such partnerships? Which institutions would be targeted and what would be our modus operandi to ensure success?

While we appreciated the difficulties of making precise predictions of the future composition and the geographical location of our off-campus students we noted from previous records of students' enrolment that regions that showed higher concentrations of student population had done so consistently over a long period of time. Therefore a decision was made to give high priority to these areas. We then proceeded to look at the selected cluster regions to identify Colleges of Education and public and community libraries that were within reasonable access to our students. We were particularly keen on Colleges of Education that had been designated, by our university, as Distance Education Learner Support Centres since many of our students had already become familiar with these institutions in their interactions with tutors. Furthermore, it was our understanding that Colleges of Education, being academic institutions, would probably be more accommodating to our proposal.

Forging strategic partnerships

From the outset we knew that setting up fully fledged remote resource centres for off-campus students would require a great deal of planning, negotiations, lobbying, study materials, manpower and time. Only a revolution would have made it possible for our university to assemble all these resources at once. Therefore we deemed it prudent to adopt a phased in approach. It was apparent in the joint meetings we had with faculties, that if we succeeded in setting up remote collections at strategic locations, in established libraries, we would lay the necessary foundations to develop library services that were more or less equivalent to those services enjoyed by on-campus students. With this objective in mind we decided that our terms of reference with Colleges of Education and any other libraries we planned to go into partnership with, would centre around establishing remote reserve collections or deposit small collections that our students could access by either using such materials within the library, or borrowing for use at home.

With these objectives in mind we arranged for visits to meet with College Principals and Librarians of selected institutions. In the discussions that ensued we, in particular, made reference to the predicament of our students and noted the merits of the proposed scheme. We highlighted in detail the support that would be forthcoming from our institution, to give effect to the idea and make the scheme less burdensome to the host institutions. In no uncertain terms we emphasised that the scheme was essentially an experiment subject to fine-tuning to make it more manageable, and that in the unlikely event of the scheme compromising the core business of the host institution, termination of the scheme could be considered. In the discussions we took time to explain how the host institution could benefit from the service. Mention was made of the direct access to our reserve collection, and opportunities to borrow materials on inter-library loan from our Campus Libraries. It was indicated to our colleagues that in the times of library budget cuts and weakening buying power of our currency, the proposal was in conformity with the ideals of resource sharing which is a generally acceptable and well entrenched survival kit in library practice. Some college management officials specifically introduced financial incentives for the use of institu-

tional facilities and manpower. Our reply was that the suggestion could be tabled to Vista University management for consideration. However, our humble request was to allow the scheme to overgrow the experimental premises and generate statistics upon which we could base the criteria to levy Vista University.

By and large the first round of discussions was a success. Most colleges accepted our proposal in principle. These visits also created an opportunity for us to examine library facilities of colleges. It was a relief to note that almost all college libraries we visited were well secured, and had ample room to accommodate our study materials. The few colleges that had reservations about our proposal requested for more time for further consultations with their stakeholders before they could respond to us.

Upon completion of college visits we prepared a draft " Memorandum of Agreement ", while our minds, were still fresh. Since then a number of colleges and public libraries have signed the agreement of cooperation and the first batch of study materials have been sent and are in use.

Vision for the future

It can be asserted from the above account that our approach so far, has been largely reactive. One can postulate, and rightly so, that the efforts to establish services for off-campus learners were primarily activated by a sudden realization that off-campus students had been excluded in the provision of library services. However, the setting up of library depots and reserve collections should only be seen as one step towards leveraging off-campus students in their studies.

Management structure

Most certainly, the creation of a position and appointment of a qualified librarian, responsible for the distance education services is a catalyst to development of library services for distance learners. The librarian will be expected to provide leadership, set up the management structure and define areas of responsibility for other staff members assigned to the provision of off-campus library services.

Policy statement

Nevertheless, a broader mission statement that will inform further development of library services should be put in place. In such a mission statement Vista University should explicitly affirm its obligation to support library services for distance learners and acknowledge that off-campus students have equal rights to library services like on-campus students. In this respect Vista University should state categorically that it will strive to provide library services, to off-campus students, equivalent to services offered to on-campus students. To avoid inequitable services between on-campus and off-campus students library management and funding for the latter should be independent of the former.

There is a danger that if services for off-campus students are treated as an extension of or appendage of the on campus services, imbalances in services to be rendered may occur. This could be manifested in development of off-campus services at the expense of on-campus library services. Furthermore off-campus library services may suffer poor quality and lack of depth.

Student profiles

There are risks at stake if we assume too much about our understanding of student information needs. In dealing with off-campus students, in particular, we need to take time to study their needs and give some thoughts to possible barriers to information flow and alternative sources to information that may be available to students.

Vista students should not be regarded as homogenous. They can be differentiated by the university programmes they study, and the transport and communication infrastructures obtainable in their geographical locations. Similarly we may identify points of contrast in the varieties and strengths of library and information centres that may be found within easy access to students between two different geographical locations. Not to mention that some areas may not have any of these facilities. On the other hand students' prior knowledge of information searching skills may also differ according to individual experiences. Insight into available means of communication between library staff and students will be crucial. Some students may have access to telephone and fax facilities, others may not. The same goes for e-mail, Internet or computer facilities. Most probably the majority can only be contacted by postal services. We need verification and proportions.

The library will need such information to plot the nature and extent of information services that students may require and methods of delivery information and documents. It could be useful to establish if students will be able and willing to pay for certain services that the library can ill afford such as photocopying of full text articles, courier services or priority mail services, and other intensive information searches that may not be freely available to both on and off-campus students.

Library services programmes

Once student profiles are developed it will be easier for the library to determine the nature of library services, priority areas and also plan for the mode of delivery. For example, these profiles can guide the library on deciding whether a student's cohort of specific attributes, located in a given area, will require a particular service. These profiles will also be useful to categorise students' cohorts and sites, by different levels of support for reference work, bibliographic instructions, document delivery, inter-library loans, borrowing privileges and information literacy.

Policy, procedures & documentation

Much of what will evolve as library policy for distance learners will probably stem from the formulations and parameters that will emerge in the articulation of the library service programme. There will be a need to document and publicise policy statements and systems guidelines to faculties, administration, library staff and off-campus students. Procedures that will effect Colleges of Education and other partner libraries should also be well known to all concerned staff and students so that all commitments and responsibilities covered are commonly understood to avoid undue expectations. Relevant forms for requests, such as inter-library loans, placements of reserve materials, literature searches etc. should be readily available to off-campus students and partner libraries.

Feedback & introspection

It is common for systems and practices of this nature to include an element of feedback to reflect on performance and cost effectiveness and recommend intervention, if necessary. Therefore the management system should embody a culture of record keeping of transactions and other patterns of significant occurrences. Statistics generated through this system will form the baseline data for monitoring and evaluation. Some statistics will be, more or less, self-generating through the library system. Others have to be deliberately recorded, such as telephone or fax requests for on-line information searches.

The librarian responsible for distance education will be required to visit, from time to time, partner libraries to discuss matters pertaining to library services and attend to concerns that may arise. Programmed consultations with the relevant faculties will be essential to ensure that the library programme remains relevant and up-to-date with study programmes. Consultations can also assist the librarian to anticipate and plan for future information demands. With time, close working relations between the librarian and faculties can result in greater collaborations in curriculum development that will ultimately enhance the actualisation of the ideals of lifelong and independent learning.

Concluding remarks

Admittedly Vista University may not find it easy to achieve complete parity between off-and on-campus learners in the provision of learning resources. This is especially true if one considers the special privileges that campus based students enjoy such as immediate access to a wider array of information, the skills acquired through more regular and direct contact with library staff and the opportunities to share knowledge and experience when students converge in groups. Nevertheless, this is the principle that should guide Vista University support for distance learners in order to improve students' success.

The opportunities that the information technology of today offers in digital recording and electronic transmission of bibliographic and fulltext data and online access to remote databases, can be useful equalising factors for off-campus students on the basis of the principle of equivalent services. Vista University must vigorously interrogate this technology in terms of benefits that will accrue to the university and students in terms of costs as well as sustenance. Donor support and concerted effort with like minded institutions are some of the avenues open to Vista University given its financial limitations.

Vista University must not lose sight of the growing number of universities and other tertiary institutions in the country that are opening the doors to distance education with the full knowledge that distance education has a promising future in higher education. As the number of institutions multiplies in this industry, so will the competition for students. It is those universities that can demonstrate prominence and unequivocal academic support that will be in a better position to attract the millennium students. Competitiveness in this area entails sound vision, a realistic programme of action and the necessary resources to drive the process.

Library services for distance students at Sukhothai Thammathirat Open University

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Introduction

Sukhothai Thammathirat Open University, or STOU was established in 1978 and employs a distance learning system aimed at helping students study by themselves with utmost independence. Like other conventional public universities, STOU is under the control of the Ministry of University Affairs, and has the right to award its own degrees. To provide academic support for independent study, the University has established various types of academic services. One such service is the provision of library and information services.

Library and information services are provided through the Office of Documentation and Information — ODI. As the Central Library of the University, ODI is responsible for developing the library system and management including the acquisition of printed and non-printed materials, organising the technical process and procedures such as classifying cataloguing and indexing the materials according to library science principles, creating tools and finding aids and providing a variety of library services to its users. ODI also takes responsibility for establishing the STOU library network system to provide library and information services to STOU undergraduate and graduate students and the general public throughout the country.

ODI has used computer systems for handling library activities and services. As a part of the STOU network system, the ODI automated library system can be linked with other various wider networks in Thailand and overseas. Therefore, ODI is able to provide library and information access to the national and international networks.

A model of library and information services to distance learners

ODI organised three levels of library and information services for STOU students, namely central, regional and provincial services. Each level of service was established with the following responsibilities.

1. Central Services

   The Central services are provided through the Office of Documentation and Information in the Documentation Building and the Academic Building I at Nonthaburi. Its main purpose is to make resources available to STOU faculty staff members and course teams, STOU staff members, researchers and the general public who wish to use library materials and access to information. However, STOU students may access library and information services at ODI while attending activities and seminars on the

university campus. Graduate students may be approached for assistance in finding information and making photocopies of library materials free of charge through mail, fax and e-mail.

A variety of services available from the University's library. Some examples of basic library services are as follows:

1. *Reference and information service*
2. *Loan service*
3. *Inter-library loan service*
4. *Information access and retrieval*
5. *Photocopying service*
6. *Orientation and library visits*

At the central services, computers and information technology have been used for a wide range of library functions. Currently, six modules of the VTLS library automation systems, namely acquisition, cataloguing, circulation, OPAC, serial control and journal indexing are in use. In addition, the library automation system of the ODI is able to link together the various STOU computer systems, and the national and international institutions of higher learning. This will enable ODI to expand its services and to provide more effective and efficient library services to the students through long-distance requests.

2. Regional Services

There are two types of library services at regional level. They are library services of the Academic and Development Services Centers and Graduate Educational Resource Centers.

Library Services of the Academic and Development Services Centers

According to the University's plan 10 Academic and Development Services Centres will be established throughout the different region — the northern, central, northeastern, eastern and southern. Currently, nine Centers are in operation. Each library of the Center serves as a repository and service center with up-to-date library materials. In the near future, each Center will install a computer network system. This computer system will facilitate communication links and the exchange of information, both within and outside the University. A sub-system of library automation system is also placed in a plan.

The following library services are the basic services provided for STOU students and the general public:

1. *Reference and information service*
2. *Loan service*
3. *Inter-library loan service*

4. *Information access and retrieval*

5. *Photocopying service*

Graduate Educational Resource Centers

With the purpose of establishing library services centers for graduate students of STOU, six Graduate Educational Resource Centers were set up with the cooperation of various government agencies in 1993.

In each Graduate Educational Resource Center, self-instructional materials, reference books and text-books for graduate students are available. It is the responsibility of the ODI to supply such materials as well as to develop the library services system and producing finding aids and tools.

The following library services are provided to STOU graduate students:

1. *Reference and information service*

2. *Loan service*

3. *Photocopying service*

3. Provincial Services

Provincial Services are offered in the *STOU Corners* located in 75 provincial public libraries through the cooperation of the Department of Non-formal Education. The University has also received cooperation from the Bangkok Metropolitan in establishing *STOU Corners* in four public libraries in Bangkok, namely the Lumpini Park, the Soi Phra Nang, the Phasicharoen and the Bang Khen public libraries. In addition, Mahawachirawut School in Songkhla province has also given its cooperation by establishing a STOU Corner in Tinnasulanon Library. Similar services also provided in the Bang Khwang Central Prison, Nonthaburi.

Each STOU Corner acts as a repository and services centre of different types of selected materials and media prepared by the ODI in order to provide a service which will be of benefits to University undergraduate students and the general public in local areas.

The following library services are provided:

1. *Reference and information service*

2. *Loan service*

The use of information technology for library and information services

The following are the examples of the electronic library services provided to the staff members at the central service.

1. *On-line public Access Catalogue*

   Since 1991 the on-line public catalogue has been made for both Thai and English materials available at the ODI. The academic staff can access the catalogue on campus and through the ODI Web page (www.odi.stou.ac.th).

2. *CD-ROM Databases*

   The ODI has subscribed to various databases of different areas in the form of CD-ROM. A CD-ROM network was set up in 1996. Currently the databases available to staff and students include ERIC, ADO, SIC and Laser Quest.

3. *Internet*

   Through the STOU computer system, users are able to access information from the Internet at the ODI.

4. *Specific Databases*

   The ODI has developed its own databases since 1988. At the beginning, Micro CDS/ISIS software for micro-computer was used for creating databases as a research project. As a result, three databases, namely Printing Technology, Telecommunication and Information Technology databases were developed. Later, more databases of different areas were created by using BRS/Search software with the purpose to use as tools for information access. Currently, the ODI has databases in six areas, namely Printing Technology, Telecommunication, Information Technology, Science and Technology, Distance Education, and HM King Prajadhipok's databases.

Future plan for development of the library

According to the university policy and plan, the library network will be linked with ten libraries of the Academic and Development Services Centres within a few years. Thus, STOU students and personnel at each centre will be able to search data and information through electronic databases of ODI via the terminals installed at each centre. They will be also able to search information from other institutions of higher learning and other information centres worldwide.

Greetings from the Rainbow Nation of South Africa

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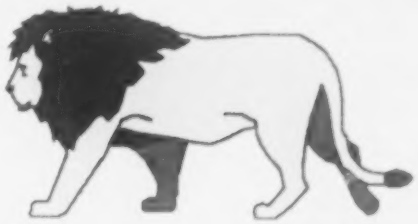

South Africa has made world newspaper headlines since 1990, and for all the right reasons!

- We had Nelson Mandela freed from prison.
- We have held democratic, peaceful elections twice.
- Our economy and our standard of living is showing signs of improvement.

Why do we call ourselves the "Rainbow Nation?"

- South Africa has approximately 33 ethnic groups, each as varied as the flowers of the fields.
- Each of these groups wants to protect their own customs and traditions while accommodating west / South African developments as well.
- This of course has a serious impact on their education, where all traditions, beliefs, religions etc are affected.
- Obviously we could never dream of offering education to all these groups in their mother tongue, and English has become the accepted language for most forms of education.

A few facts influencing the education system:

- South Africa's population figures stand at 46 million.
- The country is vast, very large numbers of people live in rural areas.
- The economy has forced urbanization on people, often separating families.
- Different and unfamiliar education now comes to the forefront.
- There are only 5 million registered taxpayers to carry the burden of the economy.
- The majority of the population are from previously disadvantaged societies in desperate need of education leading to meaningful employment or self-employment.
- Basic resources such as water and electricity are often lacking in rural areas.
- There is an almost 30% unemployment rate due to lack of education and therefore employment.
- Crime follows as a result of the unemployment and lack of education.

- There could be almost a generation of learners lost to education, society and employment if we don't address the problem right now.

But, having said all that, let us remember the following positive elements:

- We came through a period of unprecedented changes since 1990 with the minimum of civil upheaval.
- Our people have shown what they are willing to do for peace and prosperity.
- The country is rich in natural resources and the economy is strengthening.
- Once we have an efficient, modern education system up and running we will be able to cope with situations as they arise.
- The government is stable.
- We are at a stage where we can learn from other countries and perhaps avoid the pitfalls by implementing the proven, most efficient systems, such as the **electronic delivery of education** to the masses.

And this is where the **Technical College of South Africa (TECHNISA)** comes in!

- We are the **only** state-aided technical college in the country dedicated solely to the delivering of distance education.
- We deliver from the Adult Basic Education and Training level (ABET), for very basic educational needs, to the South African National N6 Diplomas, in engineering, business, general study directions. This is the equivalent of an engineer's diploma.
- We have developed courses specific to the Southern African situation, such as the Travel and Tourism course, which extends from ABET to N6 level, and our educare course which enables women to obtain a qualification for the caring for and supervision of young children (self-employment), and a very unusual but necessary course – funeral directing!
- Our courses are accredited nationally and offer a career path for our learners.
- We work in close cooperation with other colleges offering face-to-face classes, as well as with commerce and industry, to stay in line with trends in the workplace.
- We believe in and implement an approach of life-long learning for all.
- With the government's commitment to getting education to all and with the strain placed on finances, we have found ourselves in a position where we have had to look for financing.
- Our present library is situated in Randburg, Johannesburg and is open to all students who are able to get there.
- But this is where a problem lies: the majority of our learners, by the sheer fact of being distance education learners, are not able to get to the facilities.
- These facilities have played second fiddle to other, more pressing, issues in need of money and development.

- Presently, our learners

  have access to a library
  are able to study in the library
  can work on assignments
  have access to advice and guidance from lecturers
  can engage in research with all available materials
  can do preliminary work on a computer.

- We are open 5 days a week, with a small range of flexi-hours.
- There is no cost to the learners at all.
- Why all the preceding information? Because without the facts of a country, the country's present situation cannot be appreciated and neither can its people move into the future.

What does the future hold?

- At TECHNISA, our dedicated and loyal staff are working towards providing the best possible service to our learners.
- Our budget is very carefully controlled, and our PRIORITY FOR 2000 is:

Delivering study materials to the people electronically!

- We need to open centres where learners have access to their study materials.
- These centres should be well equipped with electronic facilities that will make learning easier for students, such as working on assignments etc.
- Interaction with lecturers is made possible.
- The best, most efficient methods can be implemented.
- No matter how far away from us our learners are, and no matter their level of education, their nearest centre should be relatively easy to reach and will facilitate their studies.
- Everyone should have reasonable access to education at all levels.
- This is one of the most important solutions to getting education to people, it is absolutely cost effective and efficient.
- In turn this will raise education levels, therefore enhancing employment prospects, improving the standard of living. A new life is the result.
- We sit here today, as the privileged, educated and select few, who could do so much for those less fortunate, could we work at a solution?

In the Worlds of the late Dr. Martin Luther King.

"I have a dream", and that dream is:

Education

Employment

Peace and prosperity for all!

In South Africa at the moment this is our cry for help, let us help to make that dream become reality. I thank you from the bottom of my heart.

The University of Zambia Library: past, present and the future

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The University of Zambia Library: general overview

Zambia

- The Republic of Zambia is a landlocked country in central Southern Africa.
- It was a former British colony.
- It was previously called Northern Rhodesia prior to gaining independence in October 1964.

Federation Years

- Part of the Federation of Rhodesia and Nyasaland from 1953 to 1963

The "Rhodesias" comprised Northern Rhodesia (present day Zambia); Southern Rhodesia (present day Zimbabwe) while Nyasaland is the present day Malawi.

Borders

Zambia is a landlocked country which shares borders with Angola, Botswana, Namibia, Democratic Republic of the Congo, Tanzania, Malawi, Mozambique and Zimbabwe.

Population

- Zambia has a population of about 10 million.
- 73 ethnic tribes.

English is the official language but there are seven (7) local languages used on national radio and television broadcasting, namely: Bemba, Nyanja, Tonga, Lozi, Luvale, Lunda and Kaonde.

Economy

- Copper mining which is declining due to low world copper prices and the state of the country.
- Agricultural exports
- Tourism
- Manufacturing industry weakened by cheaper imports

The Universiyt of Zambia

- Set up in 1965, one year after gaining independence from Britain.
- Located in Lusaka, the capital city
- Has a student population of some 4,500 excluding 500 distance learners.
- Predominantly an undergraduate university
- Postgraduate programmes on the increase.

Schools

- The following schools constitute the University of Zambia:
- Agricultural Sciences
- Education
- Engineering
- Humanities and Social Sciences
- Law
- Mines
- Natural Sciences
- Medicine
- Veterinary Medicine

Directorates/Institute

- Directorate of Research and Postgraduate Studies
- Directorate of Distance Education
- Institute of Economic and Social Research (INESOR)

The University of Zambia Library: general overview

- Historical Background
- Established in 1965 initially at the Ridgeway campus, now housing the Medical School
- Moved to the current building on 27 August 1969
- Declared national reference for Zambia on official opening on 27 August 1969

Mission

To provide an environment in which the University can conduct its core function of teaching, research and the provision of informed public service.

Structure

- the Main Library
- Veterinary Library
- the Medical Library

Divisions

- Readers Services
- Special Collections
- Technical Services (Cat. & Class., Serials, Acquisitions)
- Bindery and Photographic Units

Library collection

- 170,000 volumes
- About 1200 journal titles
- Most of the collection is very old due to lack of funds to replenish it
- No budget for book purchases or periodical subscriptions in the past 8 years
- CD-ROM facilities/Internet compensating for lack of current journal subscriptions

Library automation: initial efforts

- Interest in the computerization of the library dates back to 1974
- In 1975, with the assistance of the Computer Centre all the periodical holdings were manually entered onto A3 coding sheets

Good progress made

- By late 1975 nearly 25% of the journal titles were keyed onto IBM punched cards using PL/1 high level language
- The Computer Centre personnel did data entry and even produced test results

Change of personnel

In 1975 the person who initiated the automation process in the University Library was transferred to the Department of Library Studies as Lecturer

- He continued to supervise the library automation exercise
- In 1976 there was change of top leadership in the University of Zambia Library

Automation exercise abandoned

From 1977 to 1981, the person who had spearheaded the computerization of periodicals was out of the country pursuing further studies

- During that period, the library automation exercise was abandoned due to lack of support from the top library leadership

Automation suffers further setback

- The IBM punched data cards were thrown away, and so were the 75% of the manually coded A3 sheets
- That marked the end of the initial initiative

1984 stock taking exercise

- In 1984 the University Library conducted a major stock taking exercise
- The purpose of the exercise was
  - to determine how many books were in the Library
  - to determine the value of University Library books as fixed assets
- The exercise was spearheaded by the Bursar's office

Data entry

To obtain such information the Computer Centre was requested to design a file structure for the Assets Register. Library Books file.

- The manual data entry was done by Library staff while the Computer Centre did the data processing

Unsuitable file structure

- The file structure used for the Assets Register was unsuitable for library use
- Major shortcomings included missing key fields like subject, ISBN, publisher etc.

Field lengths for Author and Title were too short and this made it virtually impossible to distinguish one title from another in a sorted list.

In-house local databases

In 1990 the University Library started creating its own in-house local databases to solve specific library management problems using our little knowledge of dBase Plus

By using personal computers in other Sections of the University, the Library has developed dBase Applications for managing the following

Short Loan Collection (SLC)

Consists of nearly 3,000 reading materials in short supply recommended by teaching staff for courses being taught in the current academic year

Printed indexes are produced for students to identify materials they require for a particular course listed under a particular Lecturer's name

Output

- SLC Indexes are printed for:
  - the Main Library
  - the Veterinary Library
  - the Medical Library
  - the entire Library system
- Online retrieval is available

Serials management

- This is a list of all journals held in UNZA Library

Output

- Indexes are printed for
  - the Main Library
  - the Veterinary
  - the Medical Library
  - the entire Library system
- Online retrieval is available

Newspaper indexing (dBase version)

- This started as an experimental newspaper-indexing project earlier this year (1999).
- Articles appearing in selected local newspapers are indexed
- Descriptions for each article are freely picked from the article itself.

Output

- A printed index can be generated at any time
- Online retrieval is available

Demand driven

The newspaper database was developed for newspaper articles indexing upon experiencing difficulties (by staff and researchers) in retrieving information from the newspapers.

- Demand for news information has increased as a result of the newspaper index.

Newspapers indexed

These include Times of Zambia, Sunday Times of Zambia, Zambia Daily Mail, Sunday Mail, The Monitor, The Post (online) and National Mirror.

Newspaper indexing (CDS-ISIS version)

- The news database contains newspaper articles indexed from the Zambian daily and weekly newspapers.
- The newspapers covered are limited to those titles received by the University Library .
- This could be a limitation

Demand driven

The newspaper database was developed for newspaper articles indexing upon experiencing difficulties (by staff and researchers) in retrieving information from the newspapers.

- Demand for news information has increased as a result of the newspaper index.

Newspapers indexed

These include *Times of Zambia, Sunday Times of Zambia, Zambia Daily Mail, Sunday Mail, The Monitor, The Post* (online) and *National Mirror.*

Inventory monitoring system

- This consists of an inventory of all the equipment in the Library such as computers

Designed to provide information on every piece of equipment in the Library such as location, type of equipment, serial number, model number, condition etc.

Such information can be used to trace stolen Library equipment and for other purposes

Output

- List of all equipment in the Library
- List of all computers in the Library

- List of all equipment (by Library i e)
  - Main Library
  - Veterinary Library
- Medical Library
- Entire Library System
- Labels for all equipment in the Library

Online searching by

- Equipment name
- Serial Number
- Model Number
- Part Number

AIM database

The African Index Medicus (AIM) database is an index to health literature generated in and by African countries including Zambia. It is created in CDS-ISIS

AIM database is printed and distributed to member countries and to organizations outside the region. It is accessible on the Internet from the Medical Library web site.

Sponsors

Association for Health Information and Libraries in Africa (AHILA) with support from WHO initiated the project to create the African Index Medicus.

Ernesa database

- ERNESA is short for Educational Research Network in Eastern and Southern Africa, and the Secretariat is based in Gaborone
- Among the objectives ERNESA are:
  - To promote application of relevant research findings to educational policy-formulation and educational practice in the region
  - To ensure the utilisation of research for decision making.

Zambian chapter

- The Zambian chapter of ERNESA is ZAMERA (Zambia Educational Research Association).

Output

- The database contains summaries, findings and recommendations/conclusions of research papers in education. Outputs include:
  - Index by Author
  - Index by Subject
- Online retrieval is available

Zamin Data Base

- ZAMIN is an abbreviation for Zambian Information.
- The database consists the following:
  - theses and dissertations
  - undergraduate students final year projects
  - University of Zambia staff research papers and other publications
  - government documents and publications on/about Zambia

Output

- The **ZAMIN** database contains over a thousand records. Outputs include:
  - Index of theses and dissertations by either Subject, Author or Degree (M.A. and Ph.D).
  - Index of undergraduate students' final year project by either Subject, Author, Year or Departmental/School.
  - Index of staff papers by either Subject, Author, Department or Year

Output

- Index of government documents by either Subject, Ministry or Agency.
- Comprehensive index of all the above by Subject
- Online retrieval is available

Future Plans

Plans are underway to install the database on the Library network for all users to have access (currently on Special Collections computer).

Unzalibs — University of Zambia Library system

- With financial support from FINNED the University of Zambia Library installed Dynix Library System in June 1995

- The following modules were fully paid for:
  - Cataloguing, Acquisition, Circulation, Online Public Access (OPAC), Serials, Reserved Book Loan (Short Loan Collection)

Initial Modules Implemented

- Cataloguing and Online Public Access were implemented immediately
- The other modules could not be implemented due to some logistical problems

Retrospective conversion

Retro Link Associates of Provo, Uta, U.S.A. contracted to convert UNZA Library manual card catalogue into US MARC format. FINNIDA paid for conversion

- The conversion was done in eight months. Over 120,000 records were converted

Process of Retrospective Conversion

An experienced technician from Provo, Utah, U.S.A. carried out onsite imaging of our Official Shelf List (OSL) onto a datatape in UNZA Library for two weeks in June 1995

- The datatape was then used to convert our card catalogue into US MARC
- Converted records were loaded into UNZALIBS in March 1996

Implementation of OPAC

- OPAC was implemented soon after conversion was completed.

UNZA Library takes a lead

By March 1995 UNZA Library had become the first major Library in Southern Africa outside South Africa and Namibia to have a fully machine readable catalogue.

UNZALIBS connection to the Internet in June 1996 also meant that our OPAC was accessible worldwide to any interested users with password access

CD-ROM literature searching

Following installation of UNZALIBS, UNZA Library expanded its provision of more than 30 CD-ROM databases pre-cashed into a CD-ROM file server and searchable over the network:

System breakdown

On 8 October 1998 UNZALIBS became dysfunctional after a BNC hub blew up and could not be replaced easily. The compaq proliant 4000 also developed other hardware problems.

The system is expected to be reinstalled this October 1999 following procurement of new and more reliable (Y2K compatible) Dell Poweredge 2300 file server

Distance learning at the University of Zambia

Due to limitations of teaching and laboratory space as well as bed space, the University of Zambia is not able to admit all persons who are eligible to enter University.

In order to cater for those who are unable to do full-time study, the University offers distance learning through the Directorate of Distance Education. This year some 500 distance learners have been enrolled.

Schools offering distance learning Courses

- Currently distance learning courses are offered by the following Schools:
- Education
- Humanities &Social Sciences
- Natural Sciences.

Conversion to full-time study

When distance learning students have completed half the course load, they are converted to full-time status until they complete the degree.

Degree programmes

- Currently the following degree programmes are offered by Distance Learning:
- Bachelor of Arts (B.A.)
- Bachelor of Arts with Education
- Bachelor of Education (Special Education)
- Bachelor of Education (Primary)
- Bachelor of Arts (Library and Information Studies)— to be offered in the near future

Diploma in Adult Education

- Diploma in Adult Education (D.A.E) is offered entirely through distance learning

1998/99 course offerings: School of Education

First year courses

Semester 1

- Administration in Adult Education.
- Research Methods in Adult Education.
- The Origin and Development of Education in Zambia.
- Introduction to Special Education.
- Introduction to Religious Studies.

Semester 2

- Managing Adult Education Programmes.
- Statistic in Adult Education.
- The Role of Adult Education in Development.
- Special Educational Needs.
- Introduction to Religious Studies.

Second year courses

Semester 1

- Community Development.
- Communication Practice.
- Sociology of Education.
- Religion & Ethics I.

Semester 2

- Dynamics of Planned Change.
- Mass Education
- Educational Psychology.
- Religion and Ethics II.

1998/99 course offerings : School of Humanities & Social Sciences

First year courses

Semester 1

- Communication and Study Skills.
- Introduction to Literature and Writing Skills.
- Introduction to Micro-economics.
- French Language I.
- Beginners French I.
- Africa and the World.
- Introduction to Language.
- Introduction to Philosophy II.

- Introduction to Public Administration.
- Introduction to Sociology II.

1998/99 course offerings: School of Natural Sciences.

First Year Courses

Semester 1

- Introduction to Human Geography 1.
- Introduction to Mapping
- Techniques in Geography I.
- Mathematical Methods I

Semester 2

- Introduction to Human Geography II.
- Introduction to Physical Geography.
- Mathematical Methods II.

Second year courses

Semester 1

- The Geography of Africa
- Quantitative Techniques in Geography I.

Semester 2

- Geography of Zambia
- Quality Techniques in Geography II
- Mathematical Methods IV
- Distribution of Learning Materials

Types of learning materials for distance learning students

- Lecture materials
- Library books
- Student Assignments

Transmission of distance learning materials

- Lecture materials are sent to students by ordinary mail

  Students send their written assignments to their lecturers through the Directorate of Distance Education by the same mail service

- Library books are usually given to Distance Learning students during the annual two-week residential school.

Residential school

- The residential school gives Distance Learning students an opportunity to interact with their tutors.
- Students in remote parts of the country use the residential school to borrow University Library books for home use.
- They may keep the books for six months or more. They can also renew books by mail

Problems affecting the distribution of learning materials

- Postal services are not very efficient especially since their privatization as part of the economic liberalization in Zambia
- Students in remote parts of the country are not able to borrow or renew Library books for distance learning from Lusaka.
- Unreliability of postal services leads to loss of lecture materials, Library books or student assignments

Use of IT to distribute distance learning materials

- The Use Information Technology can Improve the distribution of learning materials

Belgian support

Under the Belgian Programme for institutional University co-operation between Flemish Inter-University Council (VLIR) the Belgian Government is assisting the University of Zambia in capacity building through various programmes

the Directorate of Distance Education is being assisted in improving the delivery of distance learning course materials and support services to distance learners through the use of information and communication technology.

General objectives of the Belgian support programme are

- to enhance the quality of distance education
- to increase the number of courses offered

Specific objectives

- to enhance capacity building
- to automate administration of distance learning, including the production of course materials
- to improve the quality of courses by using the Internet accessed through provincial learning centres to provide printers and scanners at provincial learning centres for reproducing (printing) learning materials downloaded from the Internet
- to distribute limited hard copies of reading materials through the provincial learning centres.

Implementation

- The Belgian VLIR Support includes the Installation of a network server for storing course materials.

Personal computers will be located at each of the eight learning (provincial headquarters) centres for use by distance learners

- The implementation will be done in phases:

Phase one

Computers will be supplied to Livingstone in the Southern Province and Kitwe in the Copperbelt Province. This will commence by December 1999

Phase two

- Phases two and subsequent phases will be implemented as soon as lessons have been learned from phase one

Full scale implementation

- This will include the following:
- Training lecturers how to write lecture materials in HTML format for transmission via the Internet
- Training students how to use the new technology
- Involve other specialists in the production and use of video and audio materials.

Summary

- This presentation has attempted to give a general overview of the University of Zambia, its Library
- Early attempts to computersze the Library when the then top leadership was perhaps not ready

Computeriszing without computers!

- Determination to embark on local database creation using borrowed equipment and limited know-how gave us a headstart

- This provided a learning opportunity which became handy when we were ready for full scale library automation
- Development of local databases to solve practical problems

Donor support

Implementation of a commercial library management system was made possible with generous support of the Finnish Government through its bilateral co-operation with the Zambian government

- We are most grateful to the Finnish Government for their timely assistance

Distance learning

- Efforts are being put into improving the delivery of distance learning by using information communication technology
- This is one sure way of increasing access to higher education in Zambia and should be commended

Electronic library services for distance learners - its developments in The Open University of Hong Kong

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The OUHK library

The Library of the Open University of Hong Kong (OUHK) is situated in the Homantin campus of the university. The OUHK is the only local university offering distance education programmes recognized by the Hong Kong government. The Library provides services to 25,000 students and 1,500 staff and tutors. The Library operations have been fully automated using the DYNIX library system. It automates the acquisition, cataloguing, information services (online catalogue), serials, circulation and the reserved book room, and has provided the automated library services since 1992.

Currently, there are three major collections in the Library: electronic, printed, and non-printed collection. There are about 1,000 electronic titles, which are equivalent to 500,000 printed volumes of materials; 60,000 volumes of printed materials; and about 1,700 titles of non-printed materials. The electronic collection can be viewed and used 24 hours a day via the Internet. Library users can have round-the-clock access from home to electronic newspapers, journals, indexes and abstracts, various resources, and also the digitised examination papers by using the free dial-up kits provided by the Library. With the exception of reserved and reference materials, the printed collection is available for home loan by students, staff and tutors. The non-printed materials are available for use in the Library.

To enable the users to make full use of the library services, orientation sessions, training classes and special literature search training classes are organized at the beginning of each semester. Those users who cannot join the orientation or training can view the instructional service and interlibrary loan. Other services include photocopying and inter-library loan.

Library outreaching services

The Library is keen on making its services readily available, by means of all possible arrangements, to its users who have full-time jobs and are studying through the distance education mode. Our 1996 survey on students' IT preparedness found that around 90% of our students have access to a personal computer at home or in their work place. To make use of this advantage, the university raised HK$40 million in 1997 to build an Electronic Library, under which a range of new services have been developed and existing services have been enhanced.

The infrastructure for Electronic Library services

A significant amount of the HK$40 million earmarked for the Electronic Library Project has been spent on building an infrastructure for housing or linking up electronic resources, providing remote access, and

creating a document management system for digitised objects. The Library has acted as an Internet Service Provider (ISP) in offering 144 direct dial-in lines for students' remote access to the electronic resources. Nevertheless, keeping a local dial-up pool is not treated as a long-term solution for the University because setting up and maintaining direct dial-in lines is resource intensive. Accordingly, special software has been developed using the virtual private network technology so that students using their commercial ISPs can have access to the OUHK's restricted resources. The pilot run of this software has been started and its performance is yet to be seen.

Building the electronic collection

To save updating efforts and to reduce possible hardware investment, Internet format of the databases/titles was given top priority when the Library started building up its electronic collection. Selection of the electronic resources follows the same library collection development policies and procedures as for books and serials to ensure quality. Nevertheless, the Library needs to determine for each of the electronic databases/titles the user licence, access policy, charging policy, and others. The Library is responsible for collecting information on available electronic resources and initial screening of the resources. Academics are responsible for the final recommendation of individual titles. Within 18 months, the Library has built up an electronic collection of 1,000 titles, which is equivalent to 500,000 volumes of printed materials.

The CD-ROM on the web

There are only a small number of electronic titles in CD format available on the OUHK Electronic Library. They are titles that are not available in the Internet format. The CD-ROM collection has a long history in the OUHK Library when Internet databases/titles were not popular. In 1995, a CD-ROM local area network was set up, network access within the campus and remote access using proprietary software "PC Anywhere" were available to the users. However, users are required to pay extra costs for the client version of PC Anywhere before they can access the service remotely. Moreover, the system cannot be scaled up to entertain large numbers of students. In 1998, the old PC Anywhere system was replaced by a new product called Winframe (Web version). The users can now access the CD titles using a web browser and free plug-ins without having to purchase any proprietary software.

The Electronic Reserve collection

The contents of the Electronic Reserve collection are no different from those of a printed reserve collection. It houses the past OUHK examination papers and additional readings but in digitised form. This is a small collection for us to try out the feasibility of digitisation by the Library. Copyright is always the biggest issue before the actual digitisation can be implemented. While there is no copyright problem with the examination papers produced by the university, the clearing of copyrights of the additional reading poses a real challenge to the Library. Due to the limited manpower we have, only the copyrights of publications from countries, which have copyright clearing agents, will be cleared. No direct contact with authors or publishers has been made.

Online public access catalogue

In late 1992, the bilingual online public access catalogue was made available to users on campus. The catalogue is in both English and Chinese. A special device known as 'handwriting pad' was installed and interfaced with the DYNIX library system for Chinese character inputting for our students. The pad can recognise the handwriting of users and transform it into computer recognised form. In addition, selected students who have enrolled in computer courses can access the online catalogue from their student bulletin board. The library catalogue has been made available through telnet on the Library WEB page since late 1995. With the implementation of the Electronic Library Project, students can now access the online catalogues of the OUHK Library as well as library catalogues of other local and overseas higher education institutions through the web.

Videos on demand

A video server was established using streaming technology to provide, on demand, digitised instructional videos over the low speed Internet. It is intended to teach users how to use the electronic library services at their own pace. Academic staff are also welcome to post any multimedia materials on the server for their courses.

Common user interface

All the above electronic services have been integrated through a single web based common user interface. A built-in English/Chinese search engine ensures a quick response to users' enquiries. By simple point and click, users can obtain the information without profound computer knowledge. The common user interface is intended to eliminate any possible problems arising from the limited information literacy of the students.

Other services

Information technology will be utilised as far as possible if it proves convenient to OUHK users. An **Interactive Voice Response System** (IVRS) was set up in the summer of 1998 for telephone renewal. It is a system using information technology and the renewal can be done without human intervention. In addition, a CD-ROM on how to use the electronic library and campus library has been developed to extend the user education programme to the home of the student.

Co-operation with public libraries

The Library signed a memorandum of understanding with the public library system of Hong Kong in 1990 to make course materials and set books available in 15 public libraries in the territory. The online catalogue of the OUHK Library has also been made available to students in the major public library branches since 1993. Since DYNIX is being used by the public libraries in Hong Kong, the staff in these libraries can easily handle enquires related to OUHK OPAC searching without difficulty, which facilitates co-operation between the OUHK Library and public libraries and ensures quality support to the OUHK students.

When the public libraries started their Internet service in late 1998, linkage to the OUHK electronic library was permanently established on the public libraries' web page for easy access by OUHK students. In other words, students can access the OUHK electronic library services in over 40 public libraries equipped with Internet stations. However, the service is presently restricted to OUHK students and academic staff due to security reasons and contract conditions imposed by the database/resource vendors.

Utilisation rate

The statistics below illustrate the usage rate of the Electronic Library:

Future plans

The provision of efficient electronic library services will continue to be one of the major concerns of the university to enable the learning environment to cope with changes in course delivery methods and to meet the demand of the community that university graduates have the necessary Internet skills. To build up a collection, which is directly related to the OUHK programmes, digitisation of materials in areas where electronic materials are not readily available on the market would be necessary. An E-text centre will be set up to maintain a balanced library collection.

At present, the electronic databases and resources are mainly text based to suit the slow data transmission speed of the modem. With the availability of the high speed Internet connections and the intention of the Hong Kong government to open up the telecommunications market, providing multimedia information on the web for remote access would be possible on the broadband network in the near future. The latest information technology will also be adopted to allow user access to a full range of electronic library services from public libraries without jeopardising security control.

Our survey in the summer of 1998 on the Electronic Library found that over 80% of the students were not using the Electronic Library. To ensure that all students can enjoy the benefits of the electronic library service, the Library has organized various training classes and demonstrations for the users. In early 2000, another survey will be carried out to monitor the effects brought about by the Electronic Library on the students so that appropriate measures can be taken to make the users aware of the E-Lib services. It is hoped that they will be able to make full use of the electronic service for their studies during their limited spare time.